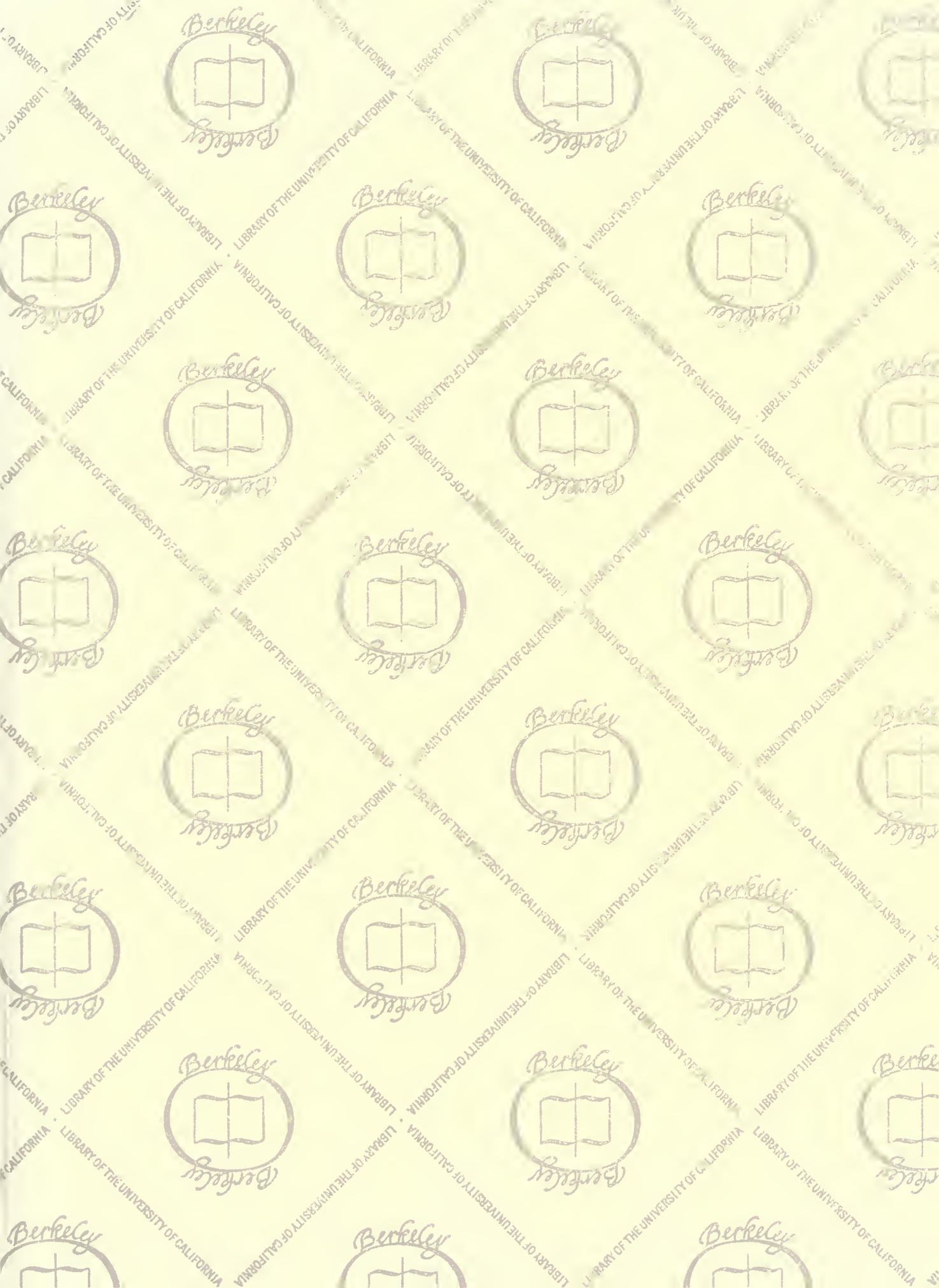


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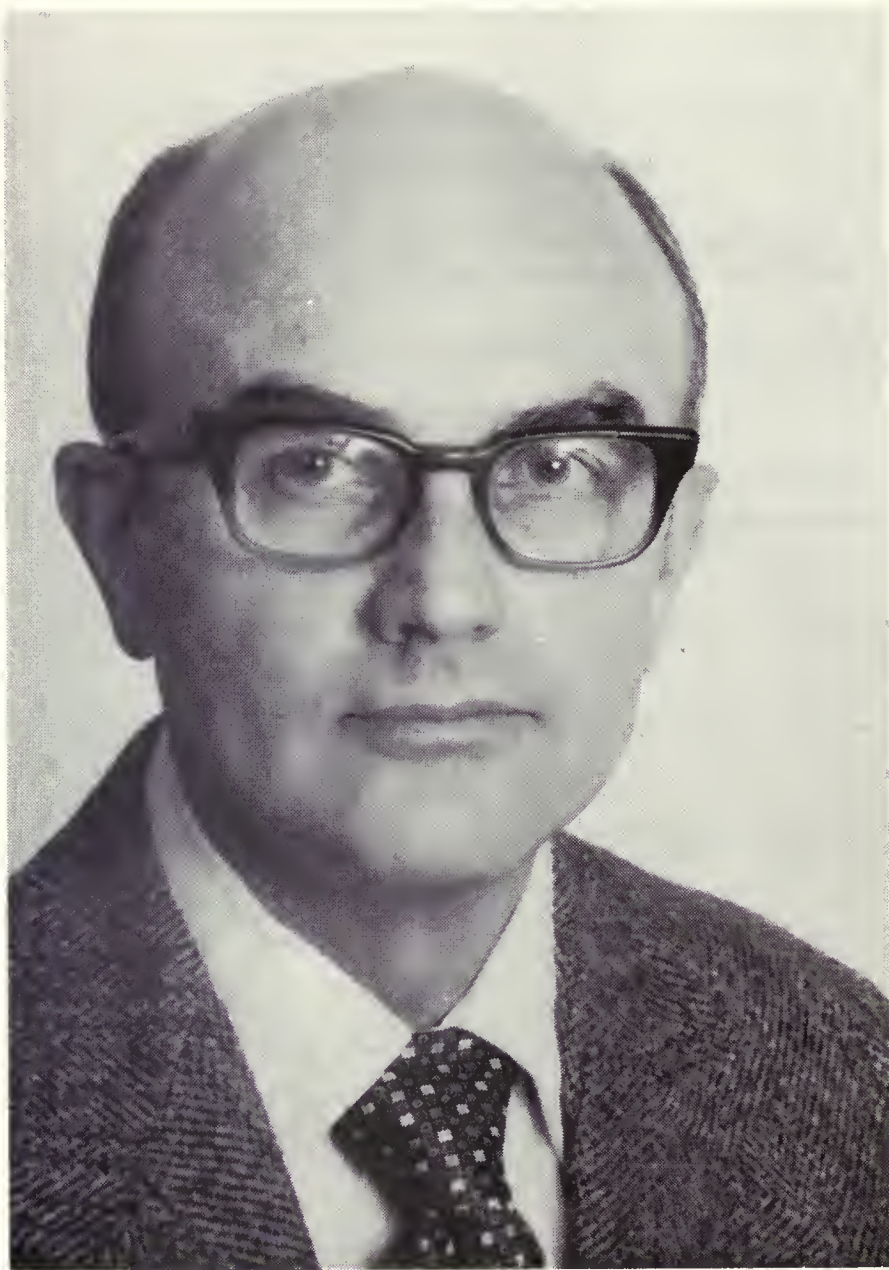
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Robert H. Torheim

MANAGEMENT TECHNOLOGY IN THE U.S. FOREST SERVICE:
EXPERIMENTATION AND INNOVATION IN THE FIELD, 1948-1979

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ROBERT H. TORHEIM

1976

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University of California
Berkeley, California

U.S. Forest Service Management Series

Robert H. Torheim

MANAGEMENT TECHNOLOGY IN THE U.S. FOREST SERVICE:
EXPERIMENTATION AND INNOVATION IN THE FIELD, 1948-1979

An Interview Conducted by
Ann Lage
March 13-14, 1980

Underwritten by the
United States Forest Service

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INTERVIEW HISTORY

The Robert Torheim interview is the fourth in a series on the subject of management technology in the United States Forest Service. Conceived of by Dr. Ernst Valfer, chief of the Management Sciences Staff of the Forest Service's Southwest Experiment Station in Berkeley, the interviews explore changes in the techniques of managing the Forest Service organization over the past half century. Individual interviewees were selected to represent various eras of Forest Service managers and to reflect the viewpoints of the field--the ranger districts, forest supervisors, and regional offices--as well as of the Washington office. Taken together, the completed interviews will offer a broad perspective, based on firsthand experiences, on how the Forest Service has devised and adapted modern management technologies to fit the needs of its rapidly growing organization and to respond to the increasing demands placed on it by federal legislation of the 1960s and 1970s.

Robert Torheim was selected as an interviewee for the series in part to give the view of a manager whose primary career experience has been in the field. From this perspective he demonstrates in his interview how changes in management techniques repeatedly resulted from a felt need at the field level, experimentation with new methods in the field, and finally adoption and standardization of the new methods by the Washington office on a service-wide basis.

For six years from 1965 to 1971, Torheim served in the service's personnel division, both in the Region 6 office in Portland and in Washington, D.C., where he directed employee development and training for the Forest

Service nationwide. His work in personnel coincided with the onset of Forest Service involvement with the Job Corps and the service's active efforts to bring minorities and women into the work force. His accounts of Forest Service efforts to respond to these societal needs is particularly insightful. Also of special interest are Torheim's views of the art of "people management," and his account of the introduction of behavioral science methods and principles into management, primarily through the vehicle of the management grid training system. His comments in this area illuminate one of the ways in which the service has been able to deal with increased complexity and conflict as the business of national forest land management has become a focus of national concern and public involvement in the sixties and seventies.

Mr. Torheim participated fully in the preparation for this interview, exhibiting a clear sense of the purpose of the series and providing the interviewer with a well organized and thoughtful outline of suggested topics. The interview was conducted on March 13 and 14, 1980, in the Region 6 offices in Portland, Oregon, close to the suburb of Beaverton, where Torheim now lives with his wife, Marjean. The three lengthy interview sessions proceeded in an orderly and concise fashion, covering all the topics as planned. Mr. Torheim made no substantive changes in the text during the editing process. The cooperative and quietly efficient manner in which Mr. Torheim joined in the entire interviewing process exemplifies for the interviewer the skill of participative management which Mr. Torheim describes so well in the text of this interview.

Ann Lage
Interviewer/Editor

August 11, 1980
Berkeley, California

I BACKGROUND IN THE PACIFIC NORTHWEST

[Interview 1: March 13, 1980]##

Seattle Youth, 1920s-1930s

Lage: This is an interview with Robert Torheim who has recently retired as regional forester for Region 1 of the U.S. Forest Service. Today's date is March 13, 1980, and I am Ann Lage from the Regional Oral History Office of The Bancroft Library. The subject of this series of interviews is management technology in the Forest Service. We're going to start out with something a little closer to home, with some discussion of your personal background. Do you want to tell me where you were born, and when, and what type of community it was?

Torheim: I was born in Seattle, Washington, February 18, 1923. I was really living out on the fringes of the city near the University of Washington which now of course is right in the middle of town, but at that time it was on the fringe of rural; it was on the edge

##This symbol indicates that a tape or a segment of a tape has begun or ended. For a guide to the tapes see page 178.

Torheim: of suburbia as we know it today. It was suburbia creeping into the fringes of the farm lands and cutover timber lands.

Lage: What did your father do?

Torheim: My father was an immigrant from Norway. He was a steel worker building buildings all over Seattle and the Northwest. My mother was a registered nurse, an immigrant from Sweden. She worked part-time as a surgical nurse. My growing up days were mostly in the Depression.

Semirural Setting

Lage: So your father's occupation wasn't rural? You were oriented toward the city?

Torheim: Well, sort of. You have to know Seattle. Seattle was a large city with a small town atmosphere. Living out in the fringes, we lived close enough to a dairy just three blocks away, a very large dairy, that I worked at milking cows and delivering milk. So you see it was a mix. In fact, if you go west of Portland where I live now it's still that way. You'll find dairies intermingled with creeping suburbia. Our family was oriented to the outdoors, though, because my father was a native of the fjords of Norway, way back, from a little farm. My mother was from northern Sweden in the forested area, so the orientation was much toward the salt water and the forests.

Lage: How about brothers and sisters?

Torheim: I had one brother two years younger than me.

Lage: Did your family enjoy outdoor activities? Did you hunt or fish?

Torheim: Yes, both; more oriented toward salt water--Puget Sound. We used to fill the boat with salmon before there was any kind of limit. But then we lived on salmon year around. That was our principal source of protein, in fact, during the Depression.

Lage: So it wasn't just for fun.

Torheim: We enjoyed it, but it was more than for fun and, as people did, we traded. Our neighbors had a chicken farm so we traded salmon to them for eggs. There was a lot of that.

Influence of the Depression

Lage: Now, you mentioned the Depression. Would you say that this had a lasting effect on your own perceptions?

Torheim: I think so, quite profound, because our family had some tough times during the Depression as did all our neighbors. It was very much a coalescing and a gathering together of people in the community for self-support. It was kind of a tough time.

Lage: I would think it would affect your vision of the government's role and maybe of the Forest Service's role.

Torheim: Probably. I have never thought of it that way, but I suppose those imprints were made. Sure, they had to be.

Lage: Different from someone raised in the fifties.

Torheim: Oh, very much, yes.

Lage: Shall we go into your education?

Torheim: All right. I went to grade school and high school there north of Seattle near the university. I wasn't sure what I wanted to take, however, but I knew I was going to the university. I didn't have any money. So at age seventeen I enrolled in the Civilian Conservation Corps and was a \$30-a-month enrollee for a year. It wasn't very far from Seattle just by pure chance. It was at North Bend, which is east of Seattle near Snoqualmie Pass in the Snoqualmie National Forest, the North Bend ranger district. I got quite well acquainted then with the Forest Service.

Training in Woodsmanship

Torheim: Prior to that time, during high school, I spent a lot of spare time in the mountains, also that same area--hiking, fishing.

Lage: Was that common among youth in your neighborhood?

Torheim: Yes, we all did that. It was very common. This was kind of an evolutionary process, I suppose, in retrospect, finding one's way into the forest. So I knew much about woodsmanship and much about getting along in the forest before I even graduated from high school. Then I belonged to a conservation club in high school. We planted trees each spring on the Snoqualmie National Forest. This was all part of it too. Many of us did this.

Lage: Was your first contact with the Forest Service with the CCC?

Torheim: No, my first contact was as a hiker--backpackers they call them today, but we were hikers. Fishing, hitting the mountain lakes, going crosscountry, and climbing mountains and that sort of thing.

Torheim: We used to have to get fire permits from the ranger. We used to run into trail crews. I knew quite a bit about the Forest Service from these contacts.

Lage: They were very visible in these areas.

Torheim: Very visible, and I knew all about the difference between national forests and national parks. I used to hike in Rainier and Olympic National Parks too by the way. So I didn't have to have a course in the difference. [laughs] But I really wasn't thinking at that time of a career necessarily. That was solidified in the CCCs. When I was an enrollee then I was saving part of my money. I was saving \$22 out of the \$30. It was required that you send \$22 of the \$30 home, and my father was banking it for me. So when I got out of the CCC camp, I worked for a while for a bank as a messenger, and then I enrolled in the University of Washington in 1941 in forestry. I had enough for my tuition, and then I worked part-time to keep me going. It gave me a start.

War and Education

Lage: Then the war intervened. Was that after college?

Torheim: No, it was in the middle like happened to so many people. I got through my freshman year at the University of Washington. Then I got through the fall quarter of my sophomore year. Now, to show you how lucky one can be, I was among the first group of teenagers to be drafted in Seattle. Nineteen-year olds and eighteen-year olds had to register for the draft in 1942 in the

Torheim: summer while I was working in the Forest Service at Skykomish, Washington as a student. By golly, the first group that was selected out of those eighteen and nineteen-year olds was in January of '43, and I was in that first group, so we all got our picture in the Seattle Times--the first teenagers to be drafted. That's the only thing I ever won! [laughter] I went off to war then.

Lage: And then returned to the University of Washington afterwards?

Torheim: Yes, I came back in November of 1945 and simply picked up where I left off.

Lage: No change of purpose?

Torheim: No, no, I was eager to get my discharge and get on with finishing my education, and I did. I worked again seasonally for the Forest Service while going to school and graduated in 1948.

Career Choice and Family

Lage: Did you ever have any other thoughts of what you might do? Was the Forest Service the first real--

Torheim: I took courses in high school, college preparation courses, that would prepare me for either science or, well, we called it business then. I was torn between whether I was going to be a business administration major or something related to the outdoors. It might have been fisheries; the university offered a fisheries course. Now, I spent lots of time as a kid on the campus. We lived only a mile and a half from campus, so I used to prowl

Torheim: around the College of Fisheries and the College of Forestry, and I knew all about the texts they used and stuff.

Lage: This was an early interest.

Torheim: Yes, a very early interest but it wasn't solidified really until I was in the CCC camp and began to work in the forest, doing forestry work and seeing the men in it who are foremen, what they were doing.

Lage: Did the type of individual seem particularly appealing to you?

Torheim: Oh, yes, yes, very much, and the type of organization, the quality of the people, and the kind of work of course.

Lage: You really knew what you were getting into probably more than most young people do.

Torheim: Very much, yes. Then the seasonal experiences as a student really solidified it.

Lage: As you look back on it, are you glad that this was your career choice?

Torheim: Oh, yes, I should say so.

Lage: You don't have regrets?

Torheim: None whatsoever. I should say not. I'd do it all over again if that were possible, sure.

Lage: How about your own family? Do you have children?

Torheim: Yes.

Lage: What lines have they taken?

Torheim: Well, this is not unusual I understand. Neither of them are interested in forestry as a career and aren't pursuing it, but much of their free time is spent in outdoor pursuits, which is

Torheim: interesting. Our daughter graduated from Oregon State University in political science. She had thoughts of going on to law school, but then she got married and has two children. She's moved around a lot and happens by chance to live here in Portland now, but they'll probably move on to other things. So we have two grandchildren and are rather close for the first time, and that's kind of pleasant. She works too. She's an administrative assistant for an insurance company.

Lage: You have a son also?

Torheim: Our son has always been in Portland since we first lived here. He went back to Washington, D.C., with us for a couple of years and then upon graduation from high school came right back. He went to school and took communications--television and radio. Now he is in radio advertising for a local radio station here. He's married, and they have a little daughter. So we have three grandchildren, all right here in Portland, which is very unusual for us Forest Service types who usually are scattered around. [laughs] But that's just pure chance.

Career Summary: From Junior Forester to Regional Forester,
1948-1979

Lage: Why don't you give us a brief outline of the direction your career took, and then we can go on to specifics when we cover different topics?

Torheim: Okay. In getting into the Forest Service I had to come the route that everybody does by taking the civil service examination. But actually I evolved into the Forest Service, and this was not unusual with a number of Forest Service people who live somewhere near the national forest and became acquainted with it. My experience wasn't all that different. The CCC experience was a little bit different, but many of my contemporaries that I went to high school and college with had exactly the same experience. By the time that we got our civil service appointments upon graduation, we were already in the outfit so to speak. Our seasonal work responsibilities were quite broad.

By pure chance again, my first appointment as junior forester was on the North Bend district of the Snoqualmie Forest where I had been a CCC enrollee.

Lage: It was just chance?

Torheim: Yes, I had not worked there seasonally at all. But I had worked on the Snoqualmie. So I worked there, and we got married, my wife Marjean and I, in that same year, 1948. I worked as a timber management assistant for that district, an assistant to the ranger for timber management work, and I was there for five years. People didn't advance so rapidly then as they do today in the Forest Service.

Then I was appointed as district ranger at Naches, which is also in the Snoqualmie, or was at that time, but on the east side of the Cascade Mountains, a completely different kind of district

Torheim: but a very interesting one. I was there three years. Then I moved from there to the Olympic Peninsula, the wettest part of the United States outside of Alaska or Hawaii, at the Quinault Ranger Station which is about fifty miles north of Aberdeen and adjacent to Olympic National Park. The average annual rainfall there is between 140 and 180 inches. We used to say it rained twelve to fifteen feet, which it does. It's very, very wet.

I was ranger there for less than three years. Then I moved to a dry climate again, to southern Oregon (Medford, Oregon) and became the staff assistant to the forest supervisor for fire control, range management, and watershed activities.

Lage: What was that forest?

Torheim: That's the Rogue River National Forest. There we went down to twenty inches annual precipitation and got dried out a little bit. By the way, this was a typical career pattern from assistant ranger to ranger, probably two districts or more, to staff. I was there for five years and like most people I was aspiring to be a forest supervisor. But I began to see working as principal staff to the supervisor that a lot of the managerial problems were not about things; they were about people, and I knew very little about people management. So I decided to take a side step in my career, and I applied for a job here in the regional office in Portland in the division of personnel management. There was a vacancy there as a placement officer. This was 1965, and by chance this was when Job Corps came along, so I was involved right off

Torheim: the bat in recruiting for Job Corps. I specialized in that for about close to six months. Then I was promoted to the branch chief for employee development and training.

Lage: Had you yourself had training for this kind of people management?

Torheim: No.

Lage: It was just an interest?

Torheim: It was an interest. I had no formal training. Now, the job that I competed for and was promoted to was employee development. Having been in fire control, which was the principal training activity in the Forest Service, I had lots of experience in training and in safety. So technically I was quite well prepared for that. That's how I got to be chief of the branch of training as we called it. I was in that job for almost three years. Then I was selected for the national job in Washington as the employee development officer for the whole Forest Service in the division of personnel management in Washington.

Lage: Was that about in '68?

Torheim: That was '68, yes; Washington, D.C., '68. Of course, one doesn't plan all the steps in one's career. There's an awful lot of luck, when openings occur, and when you're qualified at a particular time. I was in Washington, D.C., only two years before the opening in the regional office in Portland as a regional personnel officer came up, and I was selected for that.

Page: Are these jobs that you hear of and apply for?

Torheim: No. It is now, but it wasn't then. There is a formal system now for vacancy announcements. No, it wasn't that way at all. We had promotion rosters, standing rosters, and we with our immediate supervisor would lay out possible career choices for the next step for which we were qualified. Then when a vacancy came, the selecting official would take that roster and then pick the best qualified out of that. It's different from that now, but that's the way it happened.

Here I was back in Washington for two years and I wound up coming back to Portland. That job was as direct assistant to the regional forester. They were called division chiefs at that time, 1970. That was a typical Forest Service organization of many years standing. Division chiefs also carried the title of assistant regional forester. So I was the assistant regional forester for personnel management or, in the jargon of the personnel function, the regional personnel officer.

Then things happened a little faster. I didn't become a forest supervisor. Now, that is different [from the usual Forest Service promotional pattern]. By that time, gradewise and all, I was up to that level and beyond. So I didn't go through the supervisor's job at all. I was in the personnel officer's job only a year when the regional forester, Charlie [Charles] Connaughton here in Portland, retired. Rex Resler, who was the deputy regional forester, moved up to his job, and I was selected to be the deputy regional forester then.

Lage: In Portland?

Torheim: Right here, yes, in Portland. So I moved then back into line jobs, from staff to line.

Lage: You're going to have to elaborate on that terminology at some point.

Torheim: Staff jobs are jobs that are responsible for certain programs. Line jobs are generalist jobs that manage a unit. The line jobs in the Forest Service are district ranger, which manages a ranger district, a part of a national forest; a forest supervisor who manages a national forest; a regional forester who manages a region; and a chief who manages all the Forest Service. So there's a very direct and short line from the ranger to the chief.

Now, the deputies who fill the same box, so to speak, are also line; they just help to do the same job.

Lage: Then you have the staff.

Torheim: The staff then serves as program managers for each of the program areas, and this is true throughout the Forest Service.

Lage: But isn't that one of the new changes?

Torheim: Well, yes. There's a change in responsibility. When we talk about organization we can go into that, and I'll describe that in some detail, a profound change in functioning, yes, and the change in nomenclature from assistant regional forester to director really is an example of that.

Anyway, I became the deputy regional forester for Region 6. Then the reorganization took place (and we can go into that in more detail) which resulted in Region 6 having three deputies

Torheim: instead of the one--a deputy for resources, for administration, and for State and Private Forestry. So I became then (as other deputy regional foresters in the country, most of them anyway), the deputy for resources. I was in that job from 1974 until 1976.

In 1976 I was selected to be the regional forester for Region 1 in Missoula, Montana.

Lage: That was the first time you had had any contact with Region 1.

Torheim: It was the first time I had worked in Region 1, yes.

Lage: Is that unusual?

Torheim: A little bit. Yes, a little bit. The usual route of travel is for a person to have spent some time in at least two regions and the Washington office. I had spent my regional time in one region and the Washington office and that's not typical.

Lage: At some point we may also want to discuss differences in regions.

Torheim: Yes, there are conspicuous differences in regions and they are just as noticeable as the differences in society in different parts of our country.

Then I was regional forester in Montana for three years and I retired last June, 1979. That's the whole story.

Lage: That's a good outline. We're getting the background built up here. So your formal career was about thirty years or more.

Torheim: It was more than that. With my seasonal time, my total time with the Forest Service was thirty-two years. Then I was in the army for three, so my total federal service was thirty-five years.

II RESOURCE AND MULTIPLE-USE MANAGEMENT, 1950s-1960s

A Custodial Role, 1905-1945

Lage: You've seen a lot of changes in the Forest Service, particularly, you said, since World War II.

Torheim: Particularly since World War II. That's when the Forest Service itself changed, of course, as far as its mission--not mission so much but level of activity I should say.

Lage: Why don't you give us an overview of that change, and that will give us a good picture to build on.

Torheim: All right, I'll see if I can do it concisely. The Forest Service from its beginnings in 1905 until World War II was principally occupied with protecting the national forest and serving the users of the national forests. Commodity production from the national forests, particularly timber, was not a big activity. It was in some national forests prior to World War I, and it was in the twenties. But then after the Depression occurred in 1929 it trickled to almost nothing, part of the reason being that the demand for timber and forest products was low enough that it was public policy to have the private sector provide

Torheim: that and not have the government compete with the private sector, which was having trouble enough keeping its head above water.

Lage: So the private sector really preferred that the government maintain just a protective role.

Torheim: Yes, particularly during those tough economic times when the public timber wasn't needed, at least in the short run. Of course, the plan was (and it was public policy) that these forests would be available later when it was needed. So as far as timber management was concerned, or timber production, it didn't really amount to a whole lot from 1905 until 1945.

On the other hand, the Forest Service did produce much forage for cattle and sheep and horses during all of this period and even prior to the creation of the national forests. So grazing was a very large activity in the western national forests, and that was a commodity. And also public recreation--concessionnaires (we called them special use permittees) as they are today with resorts and campgrounds and hot springs and ski areas.

Wartime and Postwar Predominance of Timber Management Activities

Torheim: The big change, though, started during World War II when the demand for timber rose dramatically during the war years. Certain specialty products were removed from the national forests. Noble fir, for example, to make airplanes--to make mosquito bombers--was one type of logging activity that was really related to the needs of the war.

Lage: Sitka spruce--

Torheim: Sitka spruce was a World War I activity for the same reason, by the way. There was some of that in World War II also, but not like there was in World War I up on the Olympic Peninsula and in Western Oregon where the army did the logging actually, the spruce division. Noble fir is a limited range species that has many of the characteristics of spruce in that it's lightweight but it's very strong. It was used to make the plywood that the mosquito bomber out of Britain was made of and other things too, I'm sure. It had the characteristic of great strength. It had a very narrow range from the Columbia River north on the west side of the Cascade Mountains.

Anyway, the Forest Service in many places got into timber management activities during these war years. Immediately after the war the timber activity began to increase dramatically. The demand for housing is what triggered that. You see, with all of this low activity during the thirties and the need then for veterans and others establishing new families, the housing market picked up very dramatically. Also, with the rise of the standard of living, the use of paper products (which is correlated to standard of living) rose also.

So then the public forests were needed, and private industry began to bid on national forest timber sales, and the Congress began to appropriate money to manage the timber and sell the timber. That increased the activity on the ranger districts, particularly

Torheim: those that had a large resource of timber to manage. The budgets became larger, and Congress appropriated more money for us. That made the Forest Service grow then over time, but pretty much on the timber forests. In the Rocky Mountains and the desert Southwest these activities didn't increase at the rate they did particularly on the West Coast, Region 6 especially, Region 5 in California, Region 1 in Montana and northern Idaho, and in Region 4. That's where the level of activity really increased substantially. It didn't happen overnight.

It's this level of activity and this change that took place, from an outfit that protected the national forests, mostly from fire, and provided service to the recreation user, to a business, particularly the business of selling timber--preparing timber for sale and selling it and then being sure that the resource is perpetuated under sustained yield principles over time. That brought about reforestation programs, and, of course, all the research and state and private forestry activities that were related to timber management.

Lage: Did that require a different sort of preparation for the rangers or had the ranger always had a lot of diversified preparation?

Torheim: Well, this is interesting. It depends on where you went to school. If you went to school at Oregon State, the University of California or the University of Washington you could land on your feet, as we used to say, because you got well-prepared in those universities to manage timber. If you didn't, it was difficult.

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Torheim: These timber management districts began to generate a lot of dollars. The Congress appropriated dollars to produce timber sales. They began to get larger staffs and more technicians and more foresters, so these so-called timber forests and timber ranger districts became rather sizeable business enterprises. In the meantime the bulk of the Forest Service in terms of numbers of national forests--for example, the Rocky Mountains and the southwest and other parts of the country in the East and South--didn't have this same accelerated activity. It was substantially larger than it was prior to World War II, but there was not this dramatic change in activity. So we found that the Regions 6, 5, and 1 grew very much faster in terms of people and budget than did the other regions in the Forest Service.

That meant that the recruiting activity picked up dramatically in the forestry schools. So you found a ranger then, who prior to the war would have himself and an assistant ranger and maybe a part-time clerk and a fire control seasonal person, soon had a staff. That was the job that I had. I was the timber management assistant in a rather sizeable ranger district. I had assistants to help me and students in the summer.

Engineers and Foresters: Conflicting Cultures?

Torheim: They began to get engineers to build roads. Foresters used to do all of this. I was well checked out and had an education in logging engineering, as did most of my contemporaries. So I used to do

Torheim: the whole job. I'd cruise the timber, and I'd lay out the roads and the whole works. Then we began to get in tougher country, and the Forest Service began to get engineers to help build these roads. Actually, they were much more technically able to do this. We didn't think so at first, I must say! There was a lot of conflict between foresters and engineers that lasted for a number of years.

Lage: Did the engineers bring a background of any forestry?

Torheim: No.

Lage: Or did they come out of forestry schools?

Torheim: No. A few did. There were a few logging engineers who took the engineering jobs, but the Civil Service Commission never recognized logging engineering as a professional specialty. There was great conflict over this between the Forest Service and the Civil Service Commission for a long time. The forestry schools that taught logging engineering failed to get the Civil Service to recognize it as a distinct profession. The closest profession to logging engineering was civil engineering, but it lacked the emphasis on applying engineering technology in a forest environment. Still, civil engineers could qualify on Civil Service examinations (and logging engineers could not), so the Forest Service got civil engineers. The logging engineer got a lot of civil engineering education, but the civil engineer, of course, got more structural education, and they were better able to do other things besides road engineering.

Torheim: There was a lot of conflict between the engineers and foresters. Many engineers had trouble working under the direction of a forester. So in many places, engineers were assigned to the supervisor's office, and they worked out in the forest. Well, the ranger didn't think he had control then or the ability to coordinate the engineering and the forestry activity on a given timber sale.

Then [there] were the pure cultural differences. It was thought, rightly or wrongly, that engineers had no land ethic. All they wanted to do was build a superhighway, and the forester would oftentimes want to modify that. But the rules of engineering were quite stringent, so there was a lot of conflict.

Lage: Who would make the final decision in a case like that? The higher-ups would have been the foresters.

Torheim: Yes, but engineering was by that time developing a very powerful subculture in the outfit, and I must say that the managers who were foresters didn't really enter into that. They decided that if engineers were hired to do engineering jobs, they were more expert than foresters, so by edict they were determined to be the ones who were even directive in that activity. You have to understand something about our old organization, what it used to be. Staff people, both at the forest headquarters and regional office really were line/staff in that they had a directive role in their staff function. I'd like to talk about this a little later on when we talk about budget because that's where the power was.

Torheim: So the district ranger then had to field all of these staff inputs as if they were line directed. The penalty you paid for not [doing this] was not being able to get sufficient budgets to carry out a job because there was always this club. That line/staff role was an interesting one.

At any rate, this happened particularly I would say in engineering, and it also happened in fiscal management--accounting--particularly where managers who were not foresters let these staff people--and probably rightly so because they were all very excellent people--kind of run it. The ranger's input was often in conflict with the staff's. On many national forests, the style of management of the supervisor was such that he really paid more attention to the staff's input in a conflict situation than the ranger's input. Now, this differed with people, but there were a lot of managers who operated that way. So rangers had to be very light on their feet and very adept at trying to work their way through the staff communication and staff human relations roles to make their rig run.

Lage: You sound like this was where you began to see the people management was important.

Torheim: You bet! If you got in trouble with the staff person you were in trouble because there was nobody to take the ranger's side. So it was difficult. Now, that's the human part of it. In retrospect, as far as managing the public's business--getting the best use of the public's dollar and treating the land right--this worked okay because these staff people were terribly responsible.

Torheim: They weren't out just to do the ranger in. They were really working from a base of expertise and what they thought was really for the best. The ranger, being a generalist, couldn't be an expert in all of these things, even though he took logging engineering and knew how to build roads.

Lage: But he, as you say, did have more of a land ethic.

Torheim: Yes, but that's funny. When you really got to poking into it, I discovered that there were many engineers who had a greater land ethic than a forester. It's an individual characteristic. I also discovered that many engineers who chose Forest Service careers rather than construction in private industry did so because they had a feeling for the land. That's the way it really turned out. So this was myth.

Lage: Could the ranger have also been more "lost in the forest"-- thinking about timber management rather than land ethic?

Torheim: Yes, right, and this is where the term "sawlog" forester became such an epithet from certain interest groups. But these kinds of absolutes when you dig into them really don't stand up, as we know. But anyway, if you have those perceptions, you work around and work in the context of those perceptions, and it does affect your behavior. So it did affect our behavior.

Strength of the Multiple-Use Ethic

Torheim: Anyway, these timber management districts and forests--I don't know what percentage of the total forest activity or national forest activity there would be--but [it was] rather small in terms of numbers. Just think, we're talking about the west side of the Cascade Mountains in Northern California and the Sierras, some of the eastern Washington, eastern Oregon, Idaho, and Montana, and that's it.

Lage: Not typical Forest Service.

Torheim: No, but the people working in these areas thought that was typical Forest Service. I used to meet people on fires. The great melting pot was on fires. You went to a fire and people came from all over the country, and then you began to be able to compare your activities with activities on ranger districts in the South or the Rocky Mountains or wherever. Then you began to learn that there were a lot of people--and I'm speaking about people at the ranger district level early in their career--who really would never move, they said, to Region 6. "That big timber activity simply dominates everything, and you really can't be a multiple-use forester, can you?" they would say. Then we would say, "What's your budget? How many people do you have?" So there was a lot of bantering that took place. But even the bantering had some elements of serious thought behind it.

Lage: Would you agree that multiple-use ethic wasn't as strong in these regions?

Torheim: I think that varied. I would say this. In my own experience it was hard to maintain the multiple-use ethic on a district that had a high quota for timber production but still didn't have the numbers of people and budget to carry it out. I'm speaking now of the early fifties, that period right after the war when the Congress really didn't provide all of the dollars that were needed, but yet we had a contract with the administration, with the Congress, to produce certain allowable cuts of timber. The way we got that job done (and we, of course, would never do that today), we would locate timber sales on paper after a general reconnaissance of the lay of the land. Then the timber purchaser, the successful purchaser in the auction, would lay out the timber sale according to our paper location with their own people and then would lay out the road entirely with their own people.

Lage: This would be the private--

Torheim: Private sector. We had no people to do that. Then we would have to approve it. They had to go by the plan. That's quite different from the way it was done later where the Forest Service people actually did all of the layout, marked it on the ground, and the whole works. However, the demand for lumber and plywood was so great that was the only way we could get the job done. This didn't last for very many years, but it shows you the kind of innovative activity that took place in order to get those kinds of timber on the market, at least in western Washington and in western Oregon.

Increasing Specialization and Complexity, 1960s-1970s

Lage: Was the time of this intense activity through the sixties?

Torheim: Oh, do you mean the timber management activity? It goes on today.

Lage: It was continuous?

Torheim: Oh, yes, very much so.

Torheim: No, but then the phase change took place this way. Keep in mind that the numbers of people on the ranger district were still relatively small, and they were foresters and engineers. But then as we moved along in improving our multiple-use management activities, and as the Congress became more willing to appropriate other dollars, we began to hire other disciplines--soil scientists, wildlife biologists, fisheries biologists, landscape architects. In the business management field, we began to hire accountants more than just clerical types. So then the job of managing became more complex to coordinate all of this activity.

Again, these activities that generated the need for these other specialties, were principally timber sale activities, so they occurred first on the timber sale districts. This is what caused the expansion of the numbers of people. That's still the case because the principal activity on the land which creates a need for these specialties is the removal of the vegetative crop, principally timber, and the rehabilitation of it, and starting the new crop so that it's compatible with all of the other resources on that forest.

Torheim: This was an evolutionary thing. The engineers came along in the fifties. The other specialties, in any number anyway as I described to you, started coming along in the early sixties and continue today. Now we're even hiring sociologists as this thing evolves. The complex nature of management, the society and its complexities and all--the Forest Service has simply been part and parcel of that. But think of the difference of a district ranger in 1938 managing 400,000 acres--he and one assistant and some part-time help--compared with that same district today, in say a westside Oregon or westside Washington district or other places, which probably has fifty or sixty people. Of course, they are doing more, but that's the difference.

Lage: Now, they're doing more. Are we measuring this by how much timber is being produced or other demands on the land?

Torheim: It's quality. I described to you the laying out of the timber sale on paper and then the purchaser building the road in and taking care of the layout on the ground. There was little or no thought, I mean no intense thought, given to soil erosion, to stream siltation, to the effects on wildlife, to the visual appearance. All of those things now are part of preparing a timber sale, and that's vastly more complex than it used to be, and the trade-offs. Also, the land that was entered in those early years were the lower slopes, the easy country as we call it.

Now timber sales are laid out in very difficult terrain where the chances of damage to the resources are very great unless you have some really highly technical decisions made. So that's

Torheim: the difference. It's really of quality more than of quantity. The laws that Congress has passed over the years (and we'll talk about some of these later), the Environmental Policy Act, the Resources Planning Act, and the National Forest Management Act, have also generated judicially decreed requirements on the land.

Land-Use Planning in the Fifties: Functional Plans

Lage: Okay, if you think it's the time to do this, give us an example of how a land-use planning effort was undertaken in one of the earlier periods. Then we can see the increasing complexity in a later period.

Torheim: I'll give that a try. The planning that was done--and the forester has done this way back since the very earliest days and I'd say up into the fifties--were what we called functional plans; they were resource plans. On a ranger district we would have a timber management plan, and a very good one. It would lay out the inventory of the resource and how over periods of time this resource would be harvested and managed and regenerated.

Lage: It covered the district?

Torheim: It covered what we called working circles. The district was divided up into geographical units that were most logically managed for timber production let's say. They were called working circles. This is a piece of forestry jargon. It's still used, but not very much. But there would be a timber management plan for each of these working circles, subunits of ranger districts.

Torheim: Then we'd have a recreation plan, including how summer homes are to be managed and ski areas and campgrounds and dispersed recreation and so forth. We'd have a wildlife management plan and a fisheries management plan (again all by the various resources), and range management plans and very intensive plans, I should say.

Lage: Who developed these plans?

Torheim: These were developed by the ranger with, of course, assistance from the experts in the supervisor's office. A large part of the staff role was to help with these plans. The supervisor would approve these plans. The ranger didn't have ultimate approval. So they were really the supervisor's plans for the ranger district, prepared by the ranger and the staff.

Multiple-Use Planning and Its Drawbacks

Lage: Did the various functional plans intermesh?

Torheim: That's the next job! Do they intermesh? Well, in the fifties the vehicle [for coordinating the plans] was designed, and this varied according to regions. Region 4, the Intermountain region, was probably one of the leaders along with some others in the Rocky Mountains in what we called multiple-use planning. Then this became national policy. This was the vehicle for coordinating all of these plans so that you didn't engage in some timber management activity that would have a detrimental effect on

Torheim: wildlife, for example. The allocations were made as to which areas of the ranger district were to be managed for these particular uses and where the coordination would be done between uses effectively. You could, for example, harvest some timber and maybe improve the wildlife habitat as a result. So you would use silvicultural techniques then to enhance wildlife. That's an example.

But curiously enough, the multiple-use plan was made entirely by the ranger. I say "curiously" in retrospect. It didn't seem curious at the time. You'd have the resource plans approved by the forest supervisor, and yet the ranger had responsibility for the multiple-use plan to coordinate all of this.

Lage: What time period are we talking about? After the Multiple-Use Act in 1960 or before?

Torheim: No, before. Usually the laws emanated from things already started by the Forest Service, and the laws were passed to make that public policy.

Lage: So the ranger devises on his own the--

Torheim: No, no. Nothing was devised on one's own. We had manuals and handbooks galore. They were originally conceived in that fashion, but soon, as the Forest Service has done for all the years, things developed in the field that are good practice become policy and then it becomes standing operation procedure. That's the way this happened. Albeit there were differences between regions

Torheim: as to the form that these took, but the multiple-use plan was the coordinating mechanism, and I'd say a pretty good one. Then the Multiple-Use Act came along and required this. So it became the law to do this.

Well, it worked fine except that what really happened so often was that the multiple-use plan was really never used much because the conflicts between uses would overpower the multiple-use plan. For example, in a timber district you'd be substantially budgeted for timber, but you were under-budgeted for the other activities. The Congress was unwilling and still to this day is reluctant really to balance out the budgeting between the various resources. It's not nearly as bad as it was, but gosh, the money we got for wildlife, for recreation, for range management was a mere pittance compared to the budget for timber management.

Lage: The plan was there but more on paper?

Torheim: Yes, it was difficult to actually do the coordination, particularly on the timber district, because, with that overpowering timber management budget, and with the budget comes a goal--to produce the timber--it was very difficult to still do anything effective in the other areas. This was solved later on with the concurrence of the Office of Management and Budget and the Congress by putting into the cost of timber sale activity those coordinating costs which many of us in the field thought should have been in a long time before that. I'm really speaking of history now. This doesn't occur so much today. But before, they were all separate pieces you see.

Torheim: The forest supervisor really wasn't pushing the multiple-use plan so hard either for the same reasons. It was the ranger's responsibility. In the sixties, as it frequently happens in the Forest Service, as I mentioned before, dissatisfaction began to occur at the ranger district and forest level about this way of doing business. In the Forest Service, changes most often take place from the bottom up rather than the top down. That's just a natural organizational phenomenon, but this is especially prevalent in the Forest Service. This dissatisfaction then, as it usually is, was not turned into disruptive organizational activity, but into suggestions for change. The Forest Service typically has done this, too: people would experiment on a given forest or a given ranger district with a different way of doing things before it was adopted [nationwide].

So Region 5 and to some extent Region 6 and I imagine other places in the Forest Service too--the informal communication system was getting the word through--decided that there needs to be a better way of planning, that land allocation just wasn't getting done through the multiple-use planning process. As we moved ahead in timber sales, for example, you just had to accept what happened rather than laying out way ahead of time just exactly how the resources were going to be allocated. The multiple-use plan wasn't really serving as a coordination mechanism.

Lage: Was it pretty much a yearly plan also?

Torheim: No. These were long-range plans. Timber management plans are ten years. Other plans have various planning periods. The multiple-use plan was revised periodically too. It's not static.

Field Experimentation in New Planning Techniques

Torheim: In the later sixties, then, this dissatisfaction resulted in certain forests, probably on their own actually in many cases, experimenting with something different, until finally in the seventies Region 1 and Region 6 and probably some other regions too began to experiment with land management planning that was really allocating the resources by planning units rather than having a multiple-use plan do that. So that whole drainages would be planned for all of their resource activities. Then the thought was that someday we could put all of these together, all of the resource allocations together, instead of having a separate plan. That's just now coming to be under law, interestingly enough.

But this began to take place and after some experimentation and some differences and the natural conflicts that arise when there are differences between how regions go about it, the Washington office took this over then and said, "This is how we're going to do land management planning."

But there were still differences between regions, and some regions had gotten in so deep (particularly Region 1) that they had great trouble modifying to a general land-use planning format that the chief wanted for the whole country.

Lage: Is there a difference between land-use planning and land management planning?

Torheim: Yes, my nomenclature is a little bit loose. It's really land management planning and "use" is probably too specific. We kind of use this jargon pretty loosely. It's land management or resource management planning, that's really what it is.

Public Involvement in the Fifties: Local and Unstructured

Lage: Let me ask you another question about the earlier period to get a contrast because public involvement becomes so important in the later period. What kind of input was there from the public in, say, the fifties in developing these plans?

Torheim: Very little.

Lage: Of any sort?

Torheim: Yes, it was very local and not structured. The Forest Service through its decentralized organization has always been very close to the public it serves, but over the earlier years mostly locally. So local people who were interested of course were involved--sometimes more informally than formally--and state legislators for their district if they were interested. But it was only on an "if you are interested" basis.

Lage: Were they involved in the sense of having a conference with the district ranger?

Torheim: No, not so much. It was kind of "what do you think about this?" and "do you have some inputs to make here?" Most of this was really done over the years in the range management plan because the user had so much influence upon how that plan was carried out. Probably in range management planning the user had more to say than anybody else.

Timber management planning varied some according to the interest of local people. That was usually through organized recreationists--outdoor clubs, sportsmen's clubs, and this sort of thing. Then where there was conflict, these kinds of people representing their group would get involved, again in kind of an informal way. The ranger would go down and meet with the group and get their input and probably make some modifications. But it was not structured, and it was done because the ranger was so close to the action and the people as well. ,

Lage: Would the ranger develop contacts deliberately with, say, mountaineering groups?

Torheim: Oh yes, yes, and this varied again.

Lage: So they knew the people?

Torheim: Yes, but I would say that the forest users probably had the most influence. The public at large was not well represented and didn't seem to be interested. This, as a ranger, used to worry me and others. We used to try all kinds of techniques to get the public interested in the management of the national forest, and

Torheim: we were always frustrated that we couldn't get that interest generated. And now look how it is! They're so interested that you can hardly figure out how to handle it.

Lage: Now you're frustrated that they are interested!

Torheim: Yes, it's hard to manage. We used to talk among ourselves a lot about this and we would devise all kinds of I & E (information and education) techniques that were well established in all regions.

Lage: What was your reason for wanting to get them involved? Did you think you would come up with a better plan?

Torheim: Yes, and we thought that since we were serving the public, and they were our employers, they should have that interest. We felt that just a few of us working on a ranger district shouldn't be making all of these decisions simply by ourselves. We wanted a broader base of understanding.

But we didn't really invite their interest as we look back in retrospect. We didn't invite involvement. We usually made up our minds what we thought ought to be done as professionals, and then we went out and tried to sell people on it and say, "don't you agree?" or "isn't this good stuff?" A lot of them would, as a matter of fact. Not all. As I say, occasionally there was conflict and we really honestly tried to solve that. But we had no techniques for doing that. It was rather crudely done, albeit we surely made the attempt.

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Lage: I was interested in what you were saying about public input in the earlier times, in the fifties. The impression I've gotten through reading was that foresters sort of fell back on their expertise and didn't want the public involved that much and resented it at the later date when the public more or less demanded it.

Torheim: In my experience, just the opposite is true. Now, that's not to say it might be true somewhere, but quite the opposite. I don't mean just my personal managerial responsibility, but I mean all the other people I knew in the units I worked on were that way. Let me give you an example, and this would be typical.

Public Input: Yakima Valley Elk

Torheim: When I was ranger at Naches on the east side of the Snoqualmie in the Yakima Valley, one of our biggest resources there was a large herd of Rocky Mountain elk--well, several herds. Now, we worked closely with the Washington State Department of Game in managing those animals, the state being responsible for managing the animals and the Forest Service being responsible for the habitat. So we had to work very close together, and there was always danger of the elk getting too numerous and overgrazing their habitat.

To help us, and the Washington State Department of Game too, to get some feedback on hunting seasons and the condition of the range and the numbers of animals, we would typically, with the Washington state game representatives, go to the Yakima Sportsmen's

Torheim: Club. We wouldn't wait for an invitation. We would go there annually or more frequently and get their feedback. We would have elk feeding stations in the winter on the national forest and we would invite citizens to come out. But it would usually be sportsmen. We had an annual elk count. Again it would be sportsmen. We never got any feedback from anybody else, except the organized Yakima Sportsmen's Club.

Lage: Who were interested in hunting.

Torheim: Yes, and the propagation and perpetuation of these elk. We and the state knew that the newspapers and the radio stations would certainly be interested and would cover it. But we could never get whoever the public-at-large was. There was a public-at-large, but they weren't organized to communicate. We had a few individuals, and they were motivated people who didn't belong to anything, and they would give me plenty of feedback. William Douglas was one of these, Justice Douglas.

Lage: On this particular issue?

Torheim: On every issue. Justice Douglas was interested in the Naches district, particularly because he had his summer home at Goose Prairie. But it was difficult to get input from the public.

William O. Douglas: Naches District "Assistant Ranger"

Lage: Do you have anything further you want to say about those early experiences with Justice Douglas?

Torheim: As most folks know, Justice Douglas grew up in Yakima and his interest in the mountains were just like mine as a young person. He would come back frequently, and he kept a particular interest in the Naches and Tieton districts, these two Yakima Valley districts in the Snoqualmie forest. I remember one instance. As I told you earlier, we used to have trouble getting budget dollars for things other than timber. The Naches district had over 450 miles of trail to maintain, and I was trying also to reconstruct some trails that were left from the old mining days and were unsafe. There was one trail in particular that went from Goose Prairie up to American Ridge. It served this general area including a Boy Scout camp and a lot of recreationists, and it just happened that Bill Douglas's place was nearby too.

So by golly, I remember that it didn't look like I was going to get the dollars for that. I hope later on we talk about the budgeting process, how it used to be and how it is today, because it's terribly important to learn about that in the context of history. [see pages 69-73]

Anyway, this was on my work list, and I submitted it for a couple of years to the supervisor and never got a nickel. Then it turned out that all of a sudden I got some money--the whole amount--to reconstruct this trail. This is how it happened. I don't think that the supervisor ever believed me when I said I didn't lobby Bill Douglas for these dollars. But what happened was that two women owned the Double K Dude Ranch (and still do)

Torheim: at Goose Prairie, and they were interested in perpetuating the trails and improving them because they took guests every year, including the American Forestry Association Trail Riders, on summer trips. This trail would be a much safer trail for their use and for the Boy Scouts. They were old friends of Justice Douglas. They lobbied him. Justice Douglas went to the chief of the Forest Service, who then went to the regional forester, and somehow an agreement was made that the Naches district ought to get these dollars.

Now, the sad thing is though that no extra money was appropriated by the Congress, so it had to come out of somebody else's hide. I never knew whose, but the supervisor had this tough choice. So it didn't help the Forest Service any, but it was interesting to see that somehow the influence of Justice Douglas made it possible for me to construct that trail, which was very much in the public interest as far as I was concerned.

Lage: Well, that's public input.

Torheim: Yes, that's public input. I guess some would say today that that's special interest input. [laughs] But that's the great American process. Apparently, for \$6,000 or something like that, nobody really wanted to get Justice Douglas's back up. It wasn't really worth that, I guess.

Another personal sort of thing. Justice Douglas in the summer used to travel a lot as we all know. He took hikes here and there. He used to occasionally go overseas. One summer (I think it was

Torheim: about 1955 I would guess) he came back from Nepal, and he wrote me a letter. He asked me if I would go up into the Bumping River country come fall and collect some bear grass seed. He had been traveling in Nepal, and he saw some country that looked just like the Cascade Mountains east of Mount Rainier. He was just sure that bear grass would grow very well there. So he had contacted some botanist over there who thought the same thing. So by golly, he asked me if I'd collect some bear grass seed, and then he gave me the address that I should send it to, which I did. But I never did hear whether that bear grass grew or not! [laughter]

That's the way he was--very direct and he'd always relate to that part of the country.

Lage: So he knew you directly from your activities--

Torheim: Yes, he knew every ranger there. No matter how long you were there, he would get acquainted with each one that came along. I am sure other rangers have had similar experiences. No, he was a very human person to deal with. He spent a lot of time in the district--horseback trips and that sort of thing. He was very interested in the management of the district, very much wilderness-oriented as we know, and somewhat opposed, I think--although he used to go about it in rather left-handed ways--but rather opposed to commodity use of the forest. He wanted to be sure it didn't dominate the activities. He was a great proponent of wilderness.

It was kind of interesting. I used to call him my assistant ranger because he kept very close track of everything that happened in that district. Well, that's just a little aside!

III LAND MANAGEMENT PLANNING, 1970s

National Forest Management Act: Forest Service Input

Lage: We were comparing the early planning efforts with the later planning efforts.

Torheim: Of course, then that brings it up-to-date. The important thing is that it was really an evolution from resource planning, which goes way back to the early beginnings of the Forest Service and was essentially that until the fifties, to the first attempt to coordinate these resource plans into multiple-use plans, the passage of the law by the Congress which legalized that [the Multiple Use Act, 1960], and now the National Forest Management Act [1976] which further legalizes but spells out very specifically how this planning should take place.

All these processes were developed from the ground up and finally formed into legislation by the Congress using the experimentation of the field, not designed at upper levels and then handed down to be implemented, which is interesting.

Lage: So you would say the Resources Planning Act and the National Forest Management Act grew out of the experience and needs of the grassroots Forest Service.

Torheim: That's exactly the case, you bet.

Lage: So the Forest Service was in agreement with the new requirements placed on them.

Torheim: Absolutely; we helped formulate them. The Congress added its own dimension to them, though, that makes it different. For example, the Congress in the National Forest Management Act was quite specific. The National Forest Management Act, of course, emanated from that problem with the Organic Act in the Monongahela case, put the urgency behind having something like that as law. Had we not gotten that case and the act, I would venture to say that the process would be essentially the same.

The RPA [the Forest and Rangeland Renewable Resources Planning Act, 1974] grew out of an earlier effort by the Forest Service to put together a program of work planning and budgeting over time--an environmental program for the future--that actually the congressmen picked up in whole and made into the Resources Planning Act, again with the help of the Department of Agriculture and the support of the administration. The Forest Service doesn't do it all by themselves. I suspect that lots of legislation comes about in that fashion. The Clark-McNary Act did way back in 1924.

Lage: Then there's other input as well, I'm sure.

Torheim: Yes, and that's what makes the difference. The flavor of it then becomes more public because other interest groups get to make an input, and that's the way it should be.

Lage: That's an interesting evolution. It certainly made a difference in the way things are done.

Torheim: Yes, I think it's for the better because it does put into law, and into regulations that emanate from the law, the way the national forests should be allocated and managed. That takes away a lot of the worry that many of us had about making these kinds of decisions without the public policy being defined, and it should be.

Lage: Do you think that your view is the typical one, that you welcome a more rigid--

Torheim: Oh, yes. Well, it's not so rigid. As a matter of principle I think most of us would agree. There are some individual differences of opinion on the specifics because, particularly on the National Forest Management Act there was great conflict among the user groups and interest groups about how the regulations should be stated. But that was because there was so much conflict in the way the legislation was put together, a tremendous conflict. So the legislation was a compromise by the Congress. Then the interest groups sought to get regulations formulated out of the legislation that would espouse their own point of view. So this again became compromise. So at least I think it makes it better for the manager on the ground in these complex times to know what the direction is.

Lolo National Forest Plan, a Case Study

Lage: Do you think we can take a recent land planning effort that you've been involved in and talk about how experts are used, how the public is involved, and how the data is gathered? Would that be useful?

Torheim: Yes, we could give it a shot. I wonder how to narrow down the universe. It becomes such a complex thing. Let's see, where should I start? I was involved right up until the day I retired in the land management planning effort for the Lolo National Forest in western Montana. I just learned here last week that it's about to be completed, and it will be the first plan completed in the United States under the National Forest Management Act.

Lage: The National Forest Management Act was in '76, so this planning effort went on for several years.

Torheim: Oh, yes. It's a perpetual thing. Of course, the National Forest Management Act caused many changes to be made, so in spite of the act being passed in '76, the regulations under which the activity is carried out didn't take place until just a little over a year ago. The regulations are the trigger, not the law. So this is quick; we did this in anticipation that the regulations would be coming out soon.

The Lolo was selected. Each region, by the way had one or two forests selected and agreed to by the chief to be the first. Well, there is inherent competition between units of the Forest

Torheim: Service. So many of us, being in Region 1 and being the "Number-one region," were insisting that we have the number-one plan. We broke our backs a bit to do that. But that's just the natural competition.

From Unit to Forest Planning

Torheim: First off, the plans [formerly] were not made by entire forests, but by taking units of land on a national forest. Some forests had as many as twenty or more units. Then there was kind of a forest plan that put them together so to speak. Well, the National Forest Management Act required--and by the way we were already evolving toward that--that a plan be made for each national forest. Then you could have sub-units naturally, but the plan would be for the forest. Then there would also be a regional plan to put all of the forest plans together. In addition to that, the plan was related to RPA [Resources Planning Act] and eventually to the budget process. So it all becomes one system.

In the Lolo Forest they were nearly completed with their unit plans, as we call them. So we took and bagged those all up and devised a system to put the unit plans together and make the forest plan.

Public Involvement in Determining Issues

Torheim: Now, the forest plan is built around what we call issues. That's the starting point. The issues introduce the public to the process. The issues come out like this: What are the areas of concern in

Torheim: the Lolo Forest that you, the public, either organized or not, consider to be those things that need to be dealt with in an allocation plan? They can be very specific, such as "what are we going to do with the Rattlesnake Creek; should it be wilderness or it should it, not be wilderness?" to as broad a topic as "what should the allowable harvest levels, annual timber cuts, be on the forest as a whole?" and then everything in between.

These issues were first generated by the forest supervisor and his staff and myself as regional forester and his staff. The forest supervisor and I came to a tentative agreement of what are the issues. Then the forest supervisor goes to the public in formal meetings and lays this out with a lot of homework, of course, and a lot of publicity and [makes] very much available the issue that he's generated to them, and gets feedback then.

Lage: Tell me who the public is?

Torheim: The public is anybody who wishes to come.

Lage: Is this a public meeting?

Torheim: Public meetings were scattered all over the Lolo Forest at the smallest communities to give everybody a chance to come in. Usually they are formulated into workshops. You have to have a mechanism. People just don't come and work unless you have some way of doing it. So the technique that we used, and many other units do this for this kind of public input, is to have a workshop. People will gather together. Most times the groups in the workshops are made up of people with conflicting interests. So this generates some synergism, and you get a pretty good answer from them.

Lage: Are you looking for data from them?

Torheim: Not at this stage. We are saying, "What are the issues? Let's agree on the issues." Of course, the public is invited to write in. A lot of people don't want to attend meetings and make inputs in that way and many do.

Lage: How do you reach the public to invite them?

Torheim: It's done through public notice, and mailing lists, and the newspapers, the radios. If anybody is interested, there is plenty of opportunity and plenty of time. I must say at least in the state of Montana, with the very high level of interest in national forest management, it wasn't difficult. It varies throughout the country. The same in northern Idaho, which is part of our region, and North Dakota, so we had no problems with that.

Evaluating Public Involvement

Torheim: But at any rate, this generation of issues then is very important because it is what eventually the plan will speak to. Then the supervisor gets all this input and formulates a new set of issues based on the public input. There is some sophisticated approach made to counting public input because it's such a laundry list, and this has been developed over time.

Lage: Is this a regional development?

Torheim: No, this is national. The processes of evaluating public input have been pretty well generated through Forest Service efforts with external help from the universities, because there is no

Torheim: body of knowledge that we could draw on at all. I remember when we first began public involvement, public input, in the RARE I process--Roadless Area Review and Evaluation--how we naively went (and I went personally) to the University of Oregon, the sociology department. We said, "Now, Mr. and Ms. Sociologist, why don't you help us out?" They said, "There is no body of knowledge here. We can create ways of gathering public input. We know all about questionnaires, and we know about polls, but then you have to evaluate it."

Anyway, this has changed over time. The university has become interested. There has been some research and that sort of thing. So anyway, public input is evaluated, and the issues then are finalized to a number that can be dealt with. For the Lolo Forest, I think it was something between twelve and twenty issues. Then this is circulated again. We say, "These are the issues. How do you feel about these now?"

Lage: Again are they variable in terms of the breadth of the issues?
It can be a very specific question or--

Torheim: Yes, most of them are broad so they can be dealt with because the objective is land allocation. But each forest usually has what we call a sensitive area or an area of high public interest, where the interest is so intense it has to be set aside. The Rattlesnake Creek, even though it's one drainage, had national interest even in its allocation so that it was set aside as a special area for consideration in the planning process.

Torheim: I can't get into all of the technical details of the process, but anyway, these issues then really formed the skeletal framework for designing the plan because it would speak to these, and land allocations must be made to give some solution to these issues.

Then [comes] the process of inventory which is still difficult, and assigning the objective of the plan and then the RPA (what we call desegregation of goals, of mostly outputs) has to be integrated into that. So it's a very integrative process that only computers can do. There is a lot of alchemy that takes place here unless you are a computer technologist.

At any rate, the important thing is that the regional forester personally and the forest supervisor personally sit down at check points along the way of making these decisions and all along the way there is public input at periodic intervals. So that's the system. Of course, I left before it was finalized, but the plan, as I say, will be coming out. It will, along with the forests and the other regions that were selected initially, become the model. Naturally, the interest groups that had much input into the National Forest Management Act--the outdoor interest groups, the Wilderness Society, the Sierra Club, and the commodity interest groups are all watching this very carefully. So it's done in a big glass bowl--intentionally. They're all watching this, so I'm sure a good product will come out.

Torheim: Now, think how different that is from the multiple-use plan that was created at the ranger district, signed off by the ranger with probably the local input from ranchers and forest products people and some recreationists, compared now with each plan being a national sort of thing.

Forest Plans and the RPA: An Iterative Process

Torheim: Now then, the regional plan is really built out of the RPA and drives the forest plans. The difficult chores are to take the commodity outputs and service outputs of the Resources Planning Act and then desegregate them to the forests within the context of their land resource base that gives them the ability to carry it out. It is very complex.

Lage: Are the output levels predetermined before you start on your forest plan?

Torheim: Well, they're negotiated between the regional forester and the forest supervisors. The regions' output levels came out of RPA before the National Forest Management Act. It has to be an iterative process to distribute the outputs to each national forest.

Lage: Iterative?

Torheim: Yes, where you have to cut and fit, so to speak, and you kind of work your way up in increments, and it develops. You bounce one against the other and keep building, instead of empirically where you [develop output levels] just by formula. It's a mathematical

Torheim: way of negotiating I guess you might say. The important underlying principle is that the product and service output levels must be realistic and compatible with the capability of the natural resources on the forest to produce and provide.

Lage: This is all computer-based I would gather.

Torheim: Oh, the data and the varieties of data are so complex that without the computer none of this could be done. But to reduce it to what the Congress intended--the Congress intended that the Forest Service budget be not just an annual thing but be a five-year thing based on ten-year assessments of the resource base in the country, and that certain outputs should be made and funded using good cost accounting principles, but within the ability of the land to produce those outputs. That's what the plan does. So the plan then allocates according--

Lage: Is this the regional plan?

Torheim: The forest plan. The main plans are the forest plans. The regional plan is simply an umbrella to put them together for communicating with the Congress and the chief and the president. So it's usefulness, then, when the forest plans are put together, is to take the RPA outputs and actually allocate them to the forest, only again within the context of its ability to produce. It becomes then a two-way vehicle; it allocates the resource, and then it forms the basis for Congress to appropriate the dollars to carry it out.

Lage: We're talking about a number of different resources here.

Torheim: Oh yes, all of the resources in the national forests, every one of them.

Lage: They're all put into dollar value, recreation, wilderness...

Torheim: That's where it becomes difficult and probably always will be. The outputs for timber and for grazing are finite and easy to compute, easy to identify. But what about recreation, dispersed recreation? How are you going to evaluate that--number of visitors in the wilderness, for example? The wilderness doesn't even have to be a wilderness. Is that a measure? Wildlife habitat? How do you put a dollar value? A lot of these unit measurements are still being developed through research.

Lage: Is the public involved in those determinations, like how do we judge the value of the wilderness?

Torheim: Oh my, yes, I should say so. The Wilderness Society and the Sierra Club are clear up to their necks in this. We rely heavily on the public. The public is very much in the Forest Service's business, and I think this is terribly healthy. It's working very well, especially now that Forest Service managers have become very comfortable with dealing with the public. I don't mean comfortable meaning no conflict; I mean comfortable in the manager's ability to deal with the conflicts that naturally emanate from different interest groups.

Lage: Was that a difficult process, having them become comfortable?

Torheim: On my, it was terrible.

Lage: Do you think they are comfortable now?

Torheim: Oh, yes. I mean comfortable with their ability to carry it out. Conflict I wouldn't say is ever comfortable, but conflict has become a way of doing business. In fact, you'll find now managers are even inviting conflict and stimulating conflict. Now, I don't mean disruptive conflicts. I mean differences in points of view that really result in a better decision. Some of our managers even go out and invite conflict by structuring public inputs so people of different points of view can get together. So this is a pretty mature way.

Team Management, Conflict or Consensus?

Lage: Could this give the expert a little more power also? If you have conflicting interests balancing off against each other, does the expert get to come in with his point of view?

Torheim: Yes, this is a dilemma. This is the modern management dilemma in the Forest Service, if I understand what you're talking about. Maybe we could digress a little bit here. I mentioned earlier that the forester had an education and experience to do everything in managing resources, but as the job became more complex and the stakes became higher, and the Congress appropriated dollars for higher quality of work, we began to employ other professions. Then the ranger's job became ultimately more complex, to take the input from these experts and come up with a consensus to result in a plan of action.

Torheim: As long as there were just a few--for example, I told you about the conflict between the engineer and the forester--

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Torheim: --two people can usually resolve then what course of action to take, particularly, say, on a timber sale for a road location, albeit sometimes the engineer would, with his support from the supervisor's office, win out.

Let's compare that with the ranger district later on. It had a wildlife biologist, a soil scientist, and a landscape architect. Well, let's just use those for examples. Now, all of them participate as a team to put together a timber sale or any other activity that has an impact on the land. Their job is to come together with a consensus for a plan of action. But when you think about it, these expert specialists came from different backgrounds of education. They didn't learn in their professional discipline leading to a baccalaureate degree in school, that they had to compromise, as they would call it, their professional opinion. They learned quite the opposite--to stick with their professional opinion and with great conviction see that it's carried out.

The problem with resource management is, though, being very complex, certain trade-offs have to be made. You can't manage, for example, a timber sale strictly to get the maximum wildlife because you probably couldn't even build a road to it to get the timber out. There has to be a consensus of opinion that optimizes

Torheim: all of those activities. So you have these people working together on the ranger's staff, men and women as a team, and they'll not come to a decision because they have all of these minority reports. Well, the ranger sends them back. He can't arbitrate between all of these, so he sends them back. Then they come up with a consensus finally, and it becomes a report. But then some of them will go outside of the organization and lobby in the public arena quietly for their own position, usually through an interest group that really supports the maximizing of their particular resource.

Lage: So you have people from within the organization?

Torheim: Yes, this is very foreign in the Forest Service, but it's understandable when you get a mix of people like this. I think it's the way society is heading too in many ways with more and more specialists; these people with great conviction really believe it's unethical to compromise, as they say, their professional judgment. They honestly feel that this plan is going off in the wrong direction.

So think of the dilemma, then, of the manager trying to get all of this together and then dealing with the conflict that results generated by some of his own people. I don't mean to say that this happens all the time, but there's enough of this activity around that it's something every ranger with any kind of business activity at all has to deal with periodically. That's quite different, you see, from what it used to be.

Lage: Is that officially forbidden in the organization, this going outside and lobbying?

Torheim: Well, what can you do?

Lage: Is it frowned upon?

Torheim: Certainly. It's an anti-organizational activity, but it's not illegal. It's not something you can fire somebody for unless they're overt about it. The way society is today there is some condoning of that. It's usually looked on by some as whistle blowing. So the interest group that supports this minority opinion would fight to the bitter end to keep this employee from being fired, naturally. So that usually never becomes an issue. I don't want to convey the idea that this is happening all over the place, and it's all disruptive. I don't mean that at all. But the point I'm trying to make is that there has to be a change, and it's taking place slowly.

The first thing that has to change is (and I used to advise college deans that were in the resources field), they've got to begin at the college level to educate the specialists that they may wind up (whether it's private or public) in team types of activity because that's the way the world is put together today, with experts, and that they will have to come to a consensus if they want to work in an organization. At the same time, I used to encourage our forest supervisors and district rangers to learn how to manage this. Some would just draw the curtain and blow. They have to anticipate it. They have to give the specialists some time to learn the process, and they themselves have to learn about the process of team activity, that it is difficult.

Learning the Art of Personnel Management

Torheim: Now, this is just 180 degrees away from where the Forest Service used to be. It used to be that would be completely not tolerated. In fact, the ranger would just not be a ranger if he could not really run the rig, so to speak, and keep his people in line.

Lage: So there's a lot more people-managing?

Torheim: Yes, it's tougher now and much more complex. But again, it illustrates that the art of management has to be relearned, and there has to be a continuing kind of learning about this as things crop up.

Lage: Is the ranger given specific training, personnel training in managing his staff?

Torheim: Yes, more so than it used to be. It used to be just learned by experience. I expect maybe that's still the most learning that takes place, except a lot of this is on-the-job training and also there are a lot of continuing education opportunities and learning by experience and, oh, some of them come now with pretty broad backgrounds from universities more than technical training. But it's mostly learned really on the job.

Lage: Is the ranger's job now a higher level job than it was?

Torheim: Oh, yes.

Lage: You must work many years before you become a ranger now.

Torheim: That varies some. I worked five years and became a ranger. But my grade level was GS-9. That's the entrance level for some people today. If they have a master's degree it can be.

Lage: How long would the average person work today before becoming a ranger?

Torheim: Probably ten years. There are exceptions all over the map, but I'd say probably ten years. Now, that's not true in some ranger districts in the Rocky Mountains and the Southwest where they still have a rather low level of activity in terms of people and resources. There probably are many people making ranger in five years there, but they would have to move off to other places before they could really move on to a higher grade level. Now we have three levels of ranger depending on the work load--grade 11, 12, and 13.

Lage: You'd almost have to.

Torheim: Yes, that's how the change has taken place.

Lage: If you have several experts working under you, and you are coordinating their activity.

Torheim: When I started, we had two kinds of rangers. We had what we called the subprofessional ranger and a professional ranger. You see, when a lot of the folks came into the Forest Service, starting in the very beginning days of the Forest Service and up into the thirties, they didn't have to be college graduates to get a subprofessional assignment that might even lead to ranger. So we had two kinds. We had the SPs and the Ps. Many of these subprofessionals, right after World War II, were converted to professional positions.

Lage: Would this be the time to talk in any more detail about computers and their use in land planning? How the various computer programs are devised and how they are accpeted?

Torheim: I think I'd like to talk about computers from the point of view of management and not limit it to land-use planning. There's kind of a story chapter on computers whenever that would be appropriate. We'll talk about the management of information systems, which includes computers.

Washington Office Guidance for Land Management

Lage: I'm looking forward to that. To finish up our discussion about land planning, what has been the guidance on these plans from the Washington office? I read a very interesting pamphlet that the GAO put out (I think it was in '78)* where they analyze the progress the Forest Service had made toward fulfilling the RPA. They were a little critical of the fact that the land planning effort seemed to be going off in all different directions, and there wasn't enough guidance. Now, would you agree with that?

Torheim: Oh yes, very much. In my judgment I don't think that on a national basis we really got hold of this as fast as we should. Things were moving so rapidly though, it's not hard to understand. As I

*General Accounting Office, The National Forest--Better Planning Needed to Improve Resource Management, 1978.

Torheim: described earlier, these changes in planning techniques and the change from multiple-use planning to land management planning were born of frustration at the field level, that the multiple-use planning process was not working like it should. So the Forest Service being very decentralized, of course, is quite capable of beginning experimentation without any blessing from on high as long as you stay within your budget, and a complex unit can do that. Now, there is informal communication that takes place so this isn't done in secret, but it just doesn't have holy water on it. It isn't in the manual is what I'm saying. So usually, through the informal process and oftentimes formalized by letter if not in the manual, the unit or region or forest would be given license to experiment and try it out. And that's pretty good. I think if an organization isn't willing to experiment, then change never does come about, any kind of meaningful change that the outfit will accept.

Uniform Work Planning: Imposed from Above

Torheim: In the 1960s we had a system called "uniform work planning." It was developed at the top levels of the Forest Service and passed down to be implemented. It was a new way of doing work planning as compared to the old way which I guess we'll talk about a little later. I'll just use this illustratively.

Lage: Give me a date on it also.

Torheim: I'm just getting the date--1959. I was just leaving the ranger district and going to the staff job on the Rogue River. My district at Quinalt was one of the experimental districts, but again this was formalized experimental (top-down). I remember I couldn't move to the Rogue River until I completed that uniform work planning. The next year then I was in a staff role and it was SOP--standard operation procedure.

But by golly, through the years of uniform work planning, which weren't too many, it was changed every year. It was never accepted in the field. It was done by rote simply as part of the budget and allocation process and put in the drawer and left.

Lage: It didn't relate to the program decision?

Torheim: No, because you could go ahead anyway, and cuff records were kept. The field didn't see that it was useful to the carrying out of their business, although I am sure it was useful at higher levels perhaps for budget development; I would guess it could be. So I think probably in that experience (and I don't know this for sure, but I think so) enough people were dissatisfied that it conveyed the idea that really things ought to start from the bottom, up.

Land Planning: Experimentation in the Field

Torheim: Also, and I'm sure we'll talk about this later, we began to get behavioral science inputs into our techniques of management. We probably overdid it a little bit because one of the principles there is participative type of management--to let the user be

Torheim: involved in the development. As often happens when you take on a new technique, you go too far.

Putting this together (and I'm making some assumptions here), there was great license given informally and to some degree formally, for regions and forests to experiment with land management planning because it was agreed that multiple-use planning was not working. So as a result, Region 1 getting started the first, eager, had hundreds of units. Some of our national forests in Region 1 had as many as fifty or sixty units or more. Just think how long that would take, small units of land.

Lage: Each one developing a plan?

Torheim: Each one developing a plan, a full blown plan for that.

Lage: This is what time period?

Torheim: This is in the early seventies, '74, '73 and on into '76, until the National Forest Management Act came along. Other regions, like Region 6 here, had not that many but quite a few and then elected on their own to consolidate because they saw that it wasn't working. Then the method of the technology of planning was not well developed. So there was experimentation in this and this was done differently all over the place.

Lage: A different computer program?

Torheim: Oh, yes, different computer programs with high ownership in your own methodology--the not-invented-here complex, the NIH factor, all that, all the things that organizations characteristically go through when they're free to do their own thing and then later

Torheim: find they have to put it together. They have a high sense of ownership because they put so much into it of their own creativity, and that's something that you can't pull back too well. So this is the way it went, and that's why I mentioned earlier that I think the passage of the National Forest Management Act and RPA and the regulations, the need to get some uniformity, were things that people accepted because nobody liked this lack of uniformity. That's why the forests, including the Lolo in Region 1 that I mentioned, were selected with the regional foresters, the forest supervisors, and the chief together, to be formally the first forests. It was under the guidance of the Washington office to put it together.

Lage: And serve as an example.

Torheim: You bet, and this was done nationally. All these forests were doing their first plan, but it was coordinated and communicated between regions.

Lage: When you moved from Region 6 to Region 1, did you notice a big change?

Torheim: Oh yes, oh yes. We had some changes to make, some of which were already underway.

Lage: What types of differences were there in the land planning?

Torheim: Region 1 having gotten the first start had all of the small unit plans. The supervisors were not terribly satisfied with it, but they had gone so far they were reluctant to change. Some forests that hadn't gotten much of a start didn't have any trouble. But

Torheim: what we did was to consolidate units drastically. That was started before I got there. Then, interestingly enough, we had two forests that all this time unit planning was being done, were doing a forest plan. This was the Beaver Head National Forest in Montana and the Willamette National Forest in Oregon. This was done, formally approved by the chief as an experiment, while unit planning was going on to see how the forest plan might work out. Concurrently with this, the timber management plan was being done on the forest at the same time. So there was, you see, a little background even before the requirement in the National Forest Management Act. But this was done by design.

The Plan and Program Decisions in the Field

Lage: How did these elaborate land management plans relate to the decisions that the rangers are going to make, the program decisions in the field?

Torheim: They relate very well, and when they're completed probably even better. Even the multiple-use plan did to that extent, although as the resource management job became more complex it became less useful, but the multiple-use plan did that too. It relates when it comes to doing an activity on the ground and I'll keep referring to timber management not because that's the only activity of the Forest Service, but because probably it has the most profound effect on all of the resources, and it does take the coordination of all of the resources, and because it's in a short enough period of time

Torheim: that you can see the results. But it doesn't mean the other resources aren't involved too.

The timber management plan and all of the other resource plans now, under this new system, need to be subordinated to the land management plan. In other words, the land management plan makes the allocation, and then the resource plan is carried out. But of course, realistically it doesn't happen that way entirely because the timber management plan, having been generated over time, contributes to the decisions made in the land allocations, so they're together. But eventually when that first plan is done, then the resource plans will reflect back on the land management plan.

Lage: Will the resource plans still be long term?

Torheim: Yes.

Lage: Will they cover the same time periods as the land management plan?

Torheim: Yes, right, and they will be part of the land management plan. That's the important thing. They'll be chapters of it so to speak, yes. But this initial goal, you see, has to put the two together so it's not quite a classic model yet, but that's the way it will be. In fact, that's the way it is working. A timber sale, for example, would be guided by the timber management plan. The timber management plan, though, was guided by the land management plan which allocated this particular area for timber use, but also speaks to the other resources and how they too

Torheim: should be allocated, so that the trade-off that I talked about earlier are made in that timber sale to optimize all of the resources according to the plan. Or sometimes one resource is maximized if it's a critical resource.

So the land management plan then really guides it. Now, another interesting feature is that the public who had a large hand in this is going to be looking over the manager's shoulder to be sure it's carried out that way, and I think that's very healthy. There's a lot at stake.

Lage: So how might the district ranger's role be changed or altered in some way by the land management process? Does the district ranger then have less discretion than he used to in managing the district?

Torheim: Yes, less independent, unthought-out discretion because the plan is a forest plan. But the ranger, if it's done right, had a hand in its preparation. He didn't actually prepare it, because that's the supervisor's and staff's job, but you can't do it without the ranger's participation because he has the most intimate knowledge of the land and he has to make inputs at both the inventory stage and trade-off stage when it comes to optimizing various resources. So he should, if it's done right, regard it as his plan because he had a hand in putting it together.

Now I think, just people being people, this might not always come out in the classical sense because certainly I think I would have to expect that there would be some rangers who would be

Torheim: somewhat less interested in a plan than some others, and there might be some forests that would involve the rangers more than some other forests. You know all the human foibles that you get into in organizations. But that's the way it's supposed to work. I know in putting together the Lolo plan that the entire forest was very much involved and the rangers indeed did feel ownership of that plan to carry it out.

Allocation and Funding under the RPA

Torheim: The real proof of the pudding though is in the allocation and funding process. If the allocation of funds out of the budget doesn't come somewhat close to the plan or at least follow the plan in the trade-offs between resources, there's a danger it seems to me then that cynicism will develop in the field. The cynicism would result in "the plan is just a paper plan." I hope that doesn't happen. I think with the RPA it's not so likely to happen.

Lage: If it happens is it because Congress doesn't come through with funding?

Torheim: We can't lay it all on the Congress because the Congress in recent years has been more generous than the administrations have been. The Congress has seen fit in the last several years to appropriate more dollars for national forest management than the administration has put in the budget.

Lage: When the plans are being developed, what attention is paid to the promise of getting them funded? Do you have an eye to that?

Torheim: Yes, the RPA is the guide for that, and it's five years out. The president adopts the RPA and presents it to the Congress, and that's a five-year program. So that's really the benefit of the RPA. It used to be in annual increments.

Lage: When you're doing the land management plan, you're going to have some idea of what funding you'll have?

Torheim: Yes, that's correct. Yes, integrated into it. The RPA is integrated into that. That's an important part of it.

The Budgeting and Allocation Process, Pre-1970

Torheim: Perhaps, Ann, this would be a good time to describe the old process of budgeting, do you think, as compared to what we just talked about?

Lage: Yes, I think it fits right into it.

Torheim: It's quite different. It's tremendously different. When I was on the ranger district (and this is typical). This would take us from the very early days of the Forest Service up to the end of the sixties, the budgeting and allocation process was essentially the same. The ranger really had nothing to do with it formally. Now, informally the ranger would communicate (and I'll elaborate on that a little bit), the basis for getting work done on the ground was through what we called a "project work inventory."

Torheim: This was an inventory of jobs to be done, all kinds of jobs on the national forest as monies became available to do them.

The difficulty was prioritizing, or to translate them into budget requests. This was done, but the ranger was really never much involved in that. That wasn't the ranger's role. So the staff then played an important part beginning at the forest level to put together budget proposals, but really the job was done mostly at the Washington office and the regional office. It was done by staff who then were line/staff. As I mentioned before, they had directive authority for their particular activity like fire, timber, wildlife, range and so forth.

Each ranger district had a work load analysis which was used to budget the basic management activities on the district. This was called the "base funding level." The work load analysis was updated periodically. Project activities, such as recreation facilities construction, range revegetation, and timber sales were summarized in the project work inventory. These were budgeted on an annual basis. The region and forest line/staff had great influence on the budgeting and allocation of these "project" funds.

The problem that the ranger faced was that each year, at the beginning of the fiscal year, he'd get dollars, and they'd all be labeled as to what they could be used for. His job then was to make those dollars work. Now, they would vary from year to year sometimes and wouldn't always equate with the work force that he had, and there was great trouble financing the work force. Many

Torheim: people had to be laid off in the winter or work on other activities. The ranger was cutting and fitting, and then his goals were determined by the dollars that came down to him. He didn't have goals that were financed and a contract made as it is today through a plan.

Power of the Staff in Allocating Funds

Torheim: So here's where the problem came in. A good ranger would negotiate informally with staff people in the supervisor's office. He would convince through deed mostly and guile if he didn't do it entirely, that the dollars allocated to the district were really producing a lot of timber sales. My unit cost was low, and my quality was high, and so really if the forest supervisor wants to spend his bucks wisely it should be on my district. He should fund me with the full amount that I think I need.

Lage: So you're in competition with your fellow rangers.

Torheim: I'm in competition, right, but the staff is the key. He's the guy that doles out the money. When it finally comes, it comes out of the appropriation and was dealt out all down the line. Then it was up to the supervisor through his staff to allocate it to the districts, and that's when you got your bucks. .

Lage: But each staff member had a particular interest. Is that right?

Torheim: Yes, but the monies came that way. You see, the monies still do [come] from the Congress with labels on them--you know, fire money, wildlife money, timber money, recreation money and so forth.

Lage: Then each staff person could give so much fire money to each district?

Torheim: Yes, right.

Lage: That sounds like a lot of politicking.

Torheim: It was.

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Torheim: The ranger then, of course, had the duty to get along with the staff person, but he also had the duty to get a high quality job done, at least cost on the ground. I mean you couldn't just talk your way into getting dollars. So there was a lot of effort made to do a good job, and particularly to convince the staff. Now, sometimes interpersonal relationships, in spite of the quality you might be accomplishing, would interfere, as it does in human endeavor, so really you didn't want to get all crossed up with the staff person because he might then get negative vibrations about you and might not really agree with you that the quality is all that good. So negotiation on the same basis was done between the supervisor, but through his staff with counterparts (the assistant regional foresters in the regional office) and they with the Washington people. So the staff people, from the Washington level down through the forest, were quite powerful, and there was a lot of job satisfaction to being a staff person that way because you were expert in the field, and you helped the ranger, but you also had a little power which you lost [in the seventies] when you were no longer line, that you had as a director of activities in a staff position.

Torheim: I don't mean to caricaturize this really, but that's just the way that it worked. Well, it worked quite well actually as far as getting the job done because the staff people got there because they were experts. Really it was not too hard then for a ranger to move into a staff job with that kind of a role because he can kind of play ranger for six districts instead of one, although there is a lot of conflict that goes with this. But he could do it; he had the authority.

Lage: It sounds like you people do have a good background in conflict resolutions!

Torheim: Oh yes, and what I don't want to do is caricaturize this. I'm emphasizing this only because that ingredient of management is not written about much but really is what makes the rig run. It also keeps people's interest up, instills loyalty and has a lot of good features. But then as the world around us became more complicated, this kind of thing became more disruptive. It got too big. When you have a small number of people and a small output, you could live with this. But gosh, you couldn't live with this system very well when you had big outputs and lots of people to finance. It's just an awful job.

Motivation for Forest Service Reorganization

Torheim: So tomorrow I'm sure we'll get to talk more about reorganization, but let me introduce it this way. One of the motivating forces for reorganization was to change this staff role from line/staff

Torheim: to staff, and take the directive role out of staff, but put the responsibility then with the line more directly. One of the necessities was to devise a new budgeting system and a new work planning system that would get away from this negotiation between line and staff.

Lage: So the staff of the supervisor no longer could allocate the money to the rangers.

Torheim: No.

Lage: And the supervisor himself allocated it?

Torheim: Yes, but it's done now through a system, a planning-budgeting-programming system, and that's the difference.

Lage: What effect did that have on the morale of the organization?

Torheim: Well, it affected a lot of staff people very negatively. They thought that the really important features of their job were cut out. The assistant regional forester for fire management became a director of fire management. Some other changes took place, too, in that their roles were described as not being directive anymore. So they felt, "Well, god, the forest supervisor can do any damn thing he wants, and all he'll do is he'll just throw quality out of the window in favor of production and by golly, the regional forester won't even know what's happening." Well, it didn't really.

Lage: What responsibility did they have then?

Torheim: No, let's take an example, the fire one again. The fire management director used to be able to tell the forest supervisor, to direct him to do this, to do that. The fire management director would

Torheim: also allocate the dollars to the forest supervisor. The new role was that he could not direct the supervisor to do anything. The regional forester and deputies could direct. The budgeting and the fund allocation was done through the regional forester and deputies and was done through the system that we'll talk about tomorrow.

Now, his input was that of an expert. You know the realities of life are that a supervisor and the people on the ground who wanted to do the best quality would certainly do nothing to alienate that staff man and prevent him from coming out, he and his staff, to help them do a good job because that's where the expertise lies.

Some people perhaps overplayed this directive versus non-directive role and that's been sorted out. People are more comfortable in their roles now than they used to be, I'm sure. But for the transition period—where one day a person was assistant regional forester for fire management and the next day he was director of fire management and seemingly didn't have much of this authority anymore but only really functioned as an expert to the forest and, of course, the staff person to carry out the regional forester's policy, for instance--some people were in their own head really dramatizing it, and so it took away a lot of job satisfaction. This occurred at the Washington level as well.

Lage: They had the same change then?

Torheim: Yes, they had the same change.

Lage: Was this related to putting extra deputies in?

Torheim: Yes, it was all part of a massive reorganization in the Forest Service from top to bottom. But this is a budget example only. Tomorrow we can talk about some of the other things around reorganization.

Lage: And more about how the new budget--

Torheim: Yes, and the new system. We need to talk about how the new system works.

Lage: Okay, shall we stop here?

Torheim: Yes, okay.

IV MANAGERIAL METHODS AND STYLES IN THE FOREST SERVICE

[Interview 2: March 14, 1980]##

Hierarchical Structure, Authoritarian Management, 1920-1950s

Lage: We were going to start out this morning talking about managerial styles and how they've changed.

Torheim: Okay, let's see how we can handle this. Oh, a bit of historical perspective first of all that even precedes my interest in the Forest Service. The Forest Service in the twenties, right after World War I, adopted a lot of the style and organizational structure of the military. There was good reason for this. Many of the folks in the Forest Service who were in high management executive positions served in the military during World War I. Many of them schooled in forestry or engineering had served in the military. So their management styles were already well-honed to the military experience. Also, the type of work the Forest Service did, and especially fire control, lent itself well to the military style of organization and management techniques.

So although not patterned directly, there was a lot of the military influence on the development of the managerial systems and styles during the twenties.

Lage: Did you have career officers coming in?

Torheim: No, they were people with experiences like my own in World War II, who were foresters and had been in the Forest Service and then went off to war and came back. Others had a military experience and went to school after World War I. But significantly, they were in the policy making positions and the Forest Service was very young yet, you see, and so a style and techniques were still being put together. Even the Forest Service uniform to begin with was a military type of uniform.

Pioneer in Scientific Management

Torheim: Then along about the beginning of the thirties and into the thirties, the Forest Service executives began to adopt early for a government agency, it seems to me, some of the scientific management techniques that were developed even prior to World War I and during the twenties. They fit well with the Forest Service mission and with the early military type of organization I spoke about.

The Forest Service even then in the thirties pioneered (for government anyway) much of the management techniques, and they were things like directive systems (formal), work load measurement, and planning that emanated from that, project work inventories and that sort of thing. The Forest Service was very decentralized early in the game, so this worked well too. So the Forest Service in many ways, for the government at least, did some pioneer application of scientific management principles.

Torheim: Now then, these principles really were built on a hierarchical style of management where you had goals to achieve and people certainly needed to put their personal goals and their organizational goals together. Authoritarian type of management was very acceptable. The line and the staff, which came from the military, really could function that way to get work done at the lowest level through policy established at the highest level, through quick communication. It worked quite well.

The type of people that came into the Forest Service fit this too. A lot of them were woods people and hard-working people, who put in long hours and had a dedication to the job and the land, and weren't in it for money. So it was a highly structured organization. Managers, by today's standards I would say, were rather authoritarian. I don't mean that's negative, but that was perfect for the times.

Then the CCC, the Civilian Conservation Corps, came into being about this same time. So that made the Forest Service a much larger organization very suddenly. Much of the CCC program was conducted on the national forests, and it was handled by the military. So there was a big rush of work to do with all of this manpower, and the Forest Service was well prepared to do that. So this simply enhanced the need for this kind of management and the very structured way of communicating, and the directive system being put together, and the manual, and how we do things.

Autonomy, within Set Limits

Torheim: Yet there was a lot of personal responsibility given in the decentralized organization to the person in the field. So there was a lot of job satisfaction, even with authoritarian-type management.

Lage: It seems almost in conflict. I'm sure it wasn't in reality.

Torheim: Not if people accept this, that's fine.

Lage: Authoritarian, and yet a lot of autonomy at the same time.

Torheim: Oh yes, right, autonomy as far as making decisions in the field within the structure of the manual policy. Then the inspection system kept that thing glued together, a very structured inspection system. That inspection system was used not only to check out quality and quantity of activity, but it also was kind of a coaching tool. It wasn't just an audit. It was used for coaching and for training people certainly, and it worked very well. The CCC program also brought about quite a structured approach to training and the Forest Service mission, especially in fire control which required (and still does) a very military type of organization to respond immediately to the emergency helped [reinforce this approach]. The Forest Service culture was much influenced by the fire job in these years because most of the job was protection of the national forests.

So it was all very fine, very satisfying. This increase of activity in the CCC days of the thirties caused forestry schools to blossom and bloom because there was great demand for foresters.

Torheim: So the Forest Service grew quite rapidly in that period between 1932 and 1942. I came on the scene then, as I mentioned, about 1940 and '41 and '42, in that period.

Postwar Changes

Torheim: Then my perceptions and those of my peers of what kind of management the Forest Service had is where I pick up the thread. It was obvious that these were dedicated, hard-working men, these forest supervisors and district rangers, that they brooked no nonsense. You either toed the line or you got out, and that was okay. You knew exactly where you stood.

After World War II then, most of us rejected the military life. Of course, the whole society was that way. We got our discharge, we got out, we went back to school, we finished, we got out and went to work. And then we began to wonder a little bit about this style of management. I know I did, and I know my peers did (the new junior foresters that were coming into the outfit). We began to--I don't say we didn't accept it. We did, but we began to wonder really if that's the way it should be. For example, if a district ranger failed on a forest fire in some way--made some gross management error--he was really forced to leave the service in many cases.

Lage: I didn't realize it was that severe.

Torheim: Yes, I don't mean he was fired summarily because the civil service system provided due process. But they could make it so uncomfortable that usually a man would seek other employment, or sometimes if he didn't he'd be relegated to a rather disagreeable assignment. We observed this in Region 6. I know we had certain Siberias, so to speak, where rangers would be moved, usually because they failed on a fire.

On the other hand, if you succeeded in the fire game you moved very rapidly through the outfit.

Lage: So fire control really dominated--

Torheim: Very much, very much. There was a period in the thirties and into the forties when many of the Forest Service executives earned their spurs so to speak early in their careers in fire fighting and fire management. It's a very difficult and demanding job and a very fine way to learn how to manage people and programs.

Lage: In that style though.

Torheim: In that style, yes, that's the difference. There were all kinds of managers, but generally the theme was very authoritarian. In other words, they demanded that people do things the way they should and the way that they wanted them to do. The supervisor was really the person who called the shots.

Lage: Is this the forest supervisor you're speaking of.

Torheim: Yes, when I say supervisor I mean forest supervisor.

Lage: Did the ranger himself follow this type of style?

Torheim: Yes, that's right. But of course, there were a few who didn't and there was always some conflict. Those rangers that really had trouble with that kind of style, who wanted to play it a little looser or use more of their imagination or depart from the manual really got in trouble very quickly.

"The Way the Rig Ran," an Illustration

Torheim: Let me give you an example with some names. This is not an aberration either because I'm sure there were lots of similar stories like this. There was a ranger at Naches on the Snoqualmie who preceded me. His name was Horace Cooper. Coop was a well-loved ranger by other rangers and all, but forest supervisors had an awfully hard time with Coop because he didn't fit this mold. He was a fellow who really regarded the manual as something that guided his activity, but his view of the manual was that if it didn't say in the manual "thou shalt not," it was okay. So he read the manual in quite a different way from most people. However, his objective was to do a good job of management and he did on the ground.

Lage: How old a man was he? Was he in your age group?

Torheim: No, he's half a generation ahead of me. Coop lives here in Portland. I suppose he's about seventy today. We all know him well and love him dearly. He's just a great person, and he tells these stories on himself, by the way, so I don't feel uncomfortable about telling this. But it's illustrative of management style.

Torheim: This was about 1950, I don't know the exact date, but I was a young forester on the North Bend district so we all knew this story, and Coop used to tell it. The forest supervisor was a man named Herb Plumb who came along in the Forest Service early in the game before World War I. He was typical of many forest supervisors. He retired about 1952 or '53 or somewhere in there and is now dead.

Well, Herb ran a tight ship. He had been on other national forests and in the RO [Regional Office]. He was a fine man, but he was two different personalities. Off the job he was a very fine social person and just a real fine human being. On the job he was really a martinet. He ran a tight ship. He and Coop had opposite personalities, so we had trouble!

The rangers' grades for a long time were P-2 on many districts. P-1 ("P" means professional) was the entrance grade for professionals and P-2 was ranger. As the work load increased after World War II though, the classification of some of these jobs caused them to go up. So some ranger districts became P-3. The Naches district being a large district rated a P-3. So one day Herb Plumb drove over to Naches, and he had in his pocket Cooper's P-3 promotion. He got to Coop's office (which later became mine), and it looked across the ranger station compound to the ranger's house. Herb Plumb walked into the office, greeted Coop, and exchanged a little small talk. Then he looked out the window, and he saw a new breezeway had been constructed between the house and the garage, which was separate. Now, this is in country that's twenty below zero and four feet of snow for about four months!

Torheim: So he said to Coop, "Coop, did you build that breezeway?" Coop said, "Yes, I built that breezeway." Herb said, "I didn't approve of that." Now, think about that! Today a forest supervisor wouldn't know one way or other whether a ranger was building a breezeway, but that's the way it was. Herb, like many of his peers at that time, knew every facet of every job on the ranger district. He spent a lot of time in the field. Of course, you have to put this in the context of Coop being a maverick and probably Herb also held a rather tight rein on his use of funds.

So then they got into a discussion of no approval and what kind of funds did you use and that sort of thing. It turned out that Coop was in the soup one more time with Herb Plumb. So Herb took the promotion out of his briefcase and showed it to Coop, tore it to pieces and threw it in the wastebasket, and Coop never got his P-3 until some time later.

That's illustrative of that style of management. Coop just didn't follow the processes properly. I'm sure he did a good job with the breezeway because we lived in the house later on, and you could walk, even when the snow was quite deep, from the woodshed garage to the house. [laughs] But there are lots of stories around like this, and if you talk to other people, you will find other national forests had the same kind of management style and behavior and the strict adherence to manual instructions and these same kinds of things. So that was the way the rig ran.

Torheim: Now then, as these folks that had been forest supervisors and the like during the twenties and thirties retired, then the Forest Service's new managers began to change. That's because times had changed. Younger people coming up, and many of them having been in the war, didn't ascribe to that kind of management. So there was evolution in a way from the authoritarian-type of management to, oh, more of a humanistic I would say [type]. Some of them, as you typically find, some of them went over the brink a little bit and got, as a reaction to authoritarian management, a little too humanistic--some of us thought anyway, if that's possible. But really there was a mix during the fifties because so many of the scientific management type of people and some of the newer people were all kind of mixed together. This was the state of affairs until the sixties really.

At the same time, the Forest Service really stuck with the manual and the directive system, and they still do. The use of work load measurement was refined. Uniform work planning came into being. These were really merely extensions of scientific management principles with humanistics kind of built into the mix, which meant that the ranger began to participate a little more with the supervisor in planning together instead of being directed from on high.

The Work Planning System in the Field

Lage: Do you want to say more about how the work load analysis and the planning system worked, from the viewpoint of the field?

Torheim: Yes, I'll try that. I probably don't remember all of the details as much as those who have studied it more. The work planning system--first of all, you got your fund allocations and then the ranger and his staff would put together an annual program of work based on the budget and the allocation of funds, and it was in much detail. We had ledger-type forms to use. So these were put together and became the gross work planning for the year. Now, these were backed up by project work plans, so the detail was there.

Lage: How did they relate to these longer range functional plans?

Torheim: Not very closely because the fund allocation drove the whole system, and that was an annual thing. Sometimes it went up and down like a yoyo.

Lage: So the other functional programs that we talked about were more like dreams?

Torheim: Well, they were wish lists, yes. But they guided the activity. We didn't stray from those, but we only did the increments of those plans which the funding permitted and it would vary.

Lage: So they were long-range goals which may or may not be worked towards, depending on the budget?

Torheim: Yes, if you didn't make it this year on your trail construction program, you hoped to get money next year and get a little farther. Sometimes you kept slipping back, which we did in

Torheim: campground activity. Campground improvements were built in the CCC days. We didn't get the money to maintain them, and this is still a problem, by the way.

It was very structured, but worked quite well I must say. The project work inventory that each ranger district had was a list of things to be done that was updated periodically. So you had lots of things to dip into that were real and you could cost them out. Then the work plan for the year was put together and all of your people were funded. Many of them were only funded for part of the year and only worked part of the year. We had lots of seasonal employees.

Then that was translated into monthly work plans. We sat down--the ranger and his people--each month and made a monthly work plan by day, everyday--what you were going to do everyday--and out of what fund you were going to work and what you were going to accomplish. Then you'd have a contract so to speak with the forest supervisor. The staff, of course, would join in too in the supervisor's office. But that was your contract and at the end of the month you went down through it with your people, and you checked off in red what you accomplished and what you didn't, and you made a new plan and picked up those things or some things would cancel out or change or you had a fire and you had to delay the whole thing and do it all over. But it was done by days.

Phasing Out the Diary

Torheim: Then for many years, Forest Service employees kept daily diaries. The daily diary served a number of purposes. For one thing, it was used to account for your time on your work plan, to account for your time on the payroll sheet, and to let the supervisor and the staff know, if you just sent the diary in every month, what you did. Then it was used for future work planning as well--how long does it take to do a job? It also served as a useful record and reminder, particularly for rangers in their contacts with permittees, if there is a dispute or something later on, or if you want to recall something.

So all of us, or most of us, made diaries for many years. Many of these are in the archives yet today. They form a useful source of history.

Lage: Would you say that would be an accurate historical record? Did people really put down exactly what they did?

Torheim: That would vary with the individual. Some people were very creative about their diary writing.

Lage: [laughs] I like your terminology.

Torheim: Yes, some people didn't like to write diaries. I remember one fellow who had his clerk write his diary all the time. He would tell the clerk periodically what he did.

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Torheim: But generally the diary was used appropriately. I know in my own experience, I didn't make lengthy narratives (that wasn't the intent of the diary), but I noted, and I know my colleagues that

Torheim: I worked with did, what we did during the day. We put down the functions account too if that were appropriate.

Lage: Was that well accepted or did people gripe about it?

Torheim: It was well accepted until the fifties again. We began to change, and there was a lot of dissatisfaction about the diary, as we moved along particularly in the fifties and sixties, and finally the diary was abandoned. You know, we'd never think that the diary would be abandoned. But it didn't get abandoned without pressure from the bottom. It got abandoned because it wasn't a useful tool anymore, and we got into a different kind of work planning.

Lage: Was it abandoned along with the work load analysis and other things that it tied in with?

Torheim: Sort of. I probably am a little fuzzy on the history, and it didn't just stop forthwith. It varied. Again, experimentation took place. Most change in the Forest Service begins with experimentation. Only certain individuals were required to keep a diary. Then for a while selected positions just for historical purposes kept the diary. Then finally it was just wiped out completely. By that time, though, there were things to replace it like a little modified budgeting process, more participation up and down the line, a uniform work planning system which was a pretty good one but didn't work because it was developed at the top.

But in a way, this was an evolutionary period between the more directive type of management and the--I use the word "authoritarian" for lack of a better word--but more directive

Torheim: really is what I'm talking about. I don't mean authoritarian in a negative context at all. It was simply that the person who was forest supervisor or ranger had a lot of power and exercised it overall, I'd say, wisely.

Participative Management and Management by Objectives

Torheim: There was an evolution then, you see, between this type of work planning I was talking about and the present system which is related to land management planning and is much more complex and it's computer-based.

Lage: Can we get into a description of that?

Torheim: Yes, I probably won't go into it in detail because it is quite detailed, but let's compare it with where we were.

Lage: Is that management by objectives?

Torheim: Yes, it's all tied together. The system is still being perfected, of course. But generally speaking, the budget is now put together three years out, and it's even more than that. It just gets a little less accurate as you move out, but it's tied to the Resources Planning Act, which is a five-year plan.

In land management planning the ability of the land to produce or provide services is considered. The interesting difference though is that the ranger and the forest supervisor participate together with their staffs in the formulation of these plans and budgets out over time, based on objectives that are also jointly agreed on up and down the line, and related to the RPA.

Torheim: The Congress, having passed the RPA, has a certain commitment to fund at these levels, that didn't exist before. There is still conflict between the executive branch and the legislative branch though when it comes to trying to beat inflation and prioritizing this. At any rate, it's quite different in that respect.

Then the ranger--having participated (and it's updated annually) in the objectives to be accomplished and the funding required to do that and the people power to accomplish it--has ownership. Then there are no surprises. You get funding estimates that are fairly close to the budgets that were submitted. So you can really plan out ahead instead of just starting from scratch each year.

Now, they always don't turn out exactly that way because priorities aren't always the same at the national level. At any rate, it works quite differently then, so that the ranger indeed, in comparison with the past, can really be participative in the formulation of the budgets which resulted in fund allocation, and then he can expect that over a period of time they'll generally be carried out.

Lage: Does he have any more discretion in how he's going to use the money that year or is it still allocated--

Torheim: He has more discretion. There are certain rules of the game, and most of them are by law and regulation on fund integrity, because it relates to how the Congress appropriates the money. Those rules are well known. But there is more discretion in putting

Torheim: together the budget within those guidelines by far. As compared with the way it used to be, when it was done really at the supervisor's office and at the regional office's level and simply handed to the ranger. He didn't participate formally like he does today. [He] merely competed for funds, as we talked about.

The staff assists the ranger doing that and doesn't direct him. I don't think they play quite as many interpersonal games as there used to be.

Lage: So the ranger before, it sounds as if he did have some power, but it was on the informal level of gamemanship.

Torheim: Well, yes. He didn't think he had power when it came to fund allocation because the staff really had command of that. But that's not true anymore. It's in the line now between the supervisor and the ranger, with much help from the staff. The staff really makes it work. That's the basic difference I'd say.

Lage: Is there a milestone date or approximate time span for these changes to more participative management?

Torheim: Approximately 1965 to the present.

Introducing Behavioral Sciences into Management

Torheim: Now, management styles, of course, have changed, too, to make this possible. Again, they're evolutionary, and they change among people. One of the profound events in my judgment that took place in the Forest Service and made the Forest Service managers able to cope with the rapid change in the social structure in the country

Torheim: and recent legislation was the introduction of behavioral sciences into management. This happened again, as it often does, not in a planned "let's do this" sort of a way, but again through individuals becoming interested, and then the time was right.

I think I can describe that to you because I was a part of that activity. Keep in mind the background again of new people coming into the organization, many having been in the military, the old style of management disappearing and new kinds of people coming into the Forest Service, more than foresters--other disciplines--that's all part of the background.

In 1964, the director of personnel management in Washington was a man named Hy Lyman who had come up through the ranks and had always been interested in management as a science and an art and was interested in the business of management, in addition to having been forest supervisor and ranger and all those sorts of things. So he had a more than usual interest in this subject. (He was director of personnel management.)

The people in personnel at that time in the regions and in the Washington office, were not all personnel types. When I say that I mean professionals with an education and background in personnel. The Forest Service had quite a mix, and I was one of those. They had lots of foresters who had moved over to personnel management [who] really had experiences in the field personally too. Among those there were also some professional personnel people who were being moved into the outfit. They had a greater

Torheim: and deeper knowledge of personnel systems and of human behavior and psychology.

Lage: They came out of the business schools?

Torheim: Right, or they came out of political science or all kinds of places--liberal arts types. So there was this mix. The training arm of the Forest Service was used during this period to effect change. They were kind of a licensed change agent. Now, I say this only in perspective because it didn't seem so at the time, but as I look back now it seems that this was the focal point. That's where the interface took place between people who had technical backgrounds like myself, and people who were coming in new in the outfit from universities and [who] had contact with behavioral sciences.

Lage: When you say "the training arm" was that a certain division?

Torheim: Yes, it's part of personnel management--employee development and training still is there, and most personnel departments have that. The Forest Service was always very strong in training and still is.

The Managerial Grid Training System

Torheim: It just happened that the kind of mix of people that were interested in this happened to be in the right places for something to happen, and it happened this way. Hy Lyman and some of the folks in personnel management, and some of the interested other staff people in Washington went to a managerial grid seminar. This seemed to put all of their latent feelings about organization management into

Torheim: a formal focus in a laboratory setting, highly structured, that they could understand. It seemed like it would surely work well for the Forest Service in these changing times, of trying to get the various disciplines working together (they weren't just foresters anymore), team action, participative management, and it seemed good to them.

They selected a couple of regions who had regional foresters that were known to be people who were also interested in management and experimentation and might be willing to try it out. So they went to Region 1 where Neil Rahm was the regional forester. Neil had always been interested in the business of management. In fact, he was kind of an experimenter himself, and the region was a region that had that kind of culture. So with some help from the Washington office then, Region 1 was going to try out the managerial grid with groups of people and see how that would work.

Regions compete, and so some of the other regions also thought it would be a good idea. I was the chief of the employee development branch in Region 6, and Dan Bulfer was the regional personnel officer. He was an old fire man and trainer and everything else. He didn't like to see Region 1 going off into something he thought was pretty good and not have big Region 6 also have an opportunity to do that. I was new in heading up the training branch, and I kind of felt like Dan did. This looked interesting to me, and we had a group of people in the region who had also been kind of chipping away at old traditions. You can't do this just in the

Torheim: regional office. These were forest supervisors and rangers, and they were all well known to us.

Our regional forester was Herb Stone. Herb was near retirement and had been around a long time. Herb was a very open-minded man who liked to try new things too, so Dan's job, with our staff's help, was to convince Herb that this would be a good idea to experiment with, and he bought it.

Then some other regions here and there got involved too. Some regions thought this was a bunch of junk and just rejected it completely. Anyway, this caught fire. What helped it along, in my judgment too, was the Job Corps that came into the Forest Service's realm of responsibility at exactly the same time. It was a very difficult program for us to manage because it was really a social program. It wasn't like the CCC program. We thought it was going to be. But it was really to permit young men--unemployables--to become employable. It wasn't to get work done in the woods.

They came from the darndest social background and troubles and, gosh, we had all of the human problems you can possibly imagine.

Lage: Did you have rangers in charge of Job Corps people, or did you have specially trained people?

Torheim: Well, we had a mix. In Region 6 anyway, we chose our very best young managers in the field to go into Job Corps and manage these centers, and it was a good thing we did. But the Job Corps

Torheim: staff weren't from our culture at all. They were educators, they were sociologists, they were psychologists, they were people from the penal institutions all over the country. They were the people that came into the Job Corps to do the work. They were managed, though, by Forest Service managers. We selected young managers that we felt might go on up, and they just weren't equipped, especially to work with this disparate group of people, to run a center (Job Corps camp).

So the managerial grid and the introduction of behavioral sciences through this method seemed to work very well, and it coalesced and made it possible for these units to work together to accomplish their goals.

Lage: So you used the managerial grid in the Job Corps units?

Torheim: You bet, right.

Lage: How did it work? Can you tell us more about what the managerial grid is?

Torheim: Yes, the managerial grid was simply a system of training managers in what I call participative management. Now, that's an oversimplification, but it's a way of learning how to work together with people to accomplish the organization's goals. It teaches teamwork, and it teaches the synergism of people getting together without all having the answer and through the synergistic interactions of this group, it can come up with better answers than the sum of the whole. Of course, this fit the Forest Service needs to a "T" because this was the way the Forest Service worked.

Torheim: We never had a vehicle to do it, nor did we have the understanding of how people functioned this way.

There were some elements of sensitivity training in it which later were at least modified by us. A lot of people rejected it on that basis. I must say it wasn't a large part of the managerial grid, but at least it caused people to interact with each other on a personal basis to see how they really felt about each other working in a team.

Lage: How did that go over? I think this is referred to in one of the other interviews where he describes it as sort of a lengthy session of several days of interaction.

Torheim: It was very, very, very tiring. But if you think it was tiring for the participants, you ought to see how tiring it was for those of us who conducted it. We conducted many dozens of training seminars.

Lage: I would think it would be very hard for sort of a traditional Forest Service type to accept.

Torheim: That's why it was hard on the people conducting it. It just tore the outfit apart sometimes. People had well-established niches or they had pretty solid coats of armor around their personalities, and it was just all laid out. We modified it in Region 6 though because that didn't seem to be terribly important. We didn't want people to modify their behavior, and we didn't think it was possible. We felt the psychologists were wrong there. It turned out that that's the way it worked best.

Torheim: One thing you could do with the managerial grid was to actually modify it to suit your own needs. Now, the first seminars were simply to learn. The real payoff in managerial grid though was the subsequent follow-ups where you worked with actual working groups. The first session was a laboratory mixed bag of people from all kinds of units. The real payoff though was in what we called "phase 2s" and "phase 3s" and on, where you dealt with a facilitator. The training people and others learned to act as facilitators. You worked with an actual group, a ranger and his staff, a forest supervisor and his staff, or groups of people that worked together. They worked on real life problems and, with the aid of the facilitator, learned how to work them out together better.

Lage: You were sort of along while they were doing their routine work to help them?

Torheim: Yes, we had sessions, but they'd bring to the sessions the real life things they were working with, and that was the payoff. If there hadn't been a managerial grid, I suppose over time some other techniques [would have been] used. But that opened whole new doors. It opened up the outfit to the use of consultants from universities, other than the forestry faculty. It got us into schools of business, of public administration. It got us into private industry, which was also doing the same thing, by the way.

Longterm Benefits from Managerial Training

Torheim: It just opened up the interaction of managers at all levels to the world around them much larger than just managing the national forests, and that was a profound change. Coupled with the Job Corps, and the selection of our best people in this cauldron of management activity who now had moved up to executive positions, it put the Forest Service in fine shape for the resource conflicts which have come along since then, particularly in the wilderness issue and timber management issues and that sort of thing.

Lage: Would you say it was more successful in training your younger people rather than changing the behavior of more established people?

Torheim: Yes, it didn't change the basic behavior of the established, but many of the established people really modified their behavior within the context of this because it worked. Another thing you saw was that people out on the outer fringes, the typical change agents, were going a little too fast. They were leaving folks behind, so they had to kind of back off. There's a tendency, at least in the Forest Service there always has been, that when you get something new that works, we just jump over the cliff. Then you find out you jumped too far and too fast and you haul yourself at least halfway back up to reality and then get on with it. We did this too. A lot of it was over done. This turned off a lot of people, particularly the critics who said it wouldn't work.

Torheim: But the payoff was, at least to getting the whole organization into this way of thinking, is that it became a way of doing business. I don't mean only the managerial grid, because that was just a vehicle to learn, but the participative type of management, the ability to deal with conflict, the ability to understand group interaction and what's really happening to your group, and then stop the action and critique it and say, "We're getting all hung up"--that was a new business. Usually you kept all of this inside of you and hoped you could work it out through your force of personality or intellect. It particularly fostered an ability to deal externally with conflict and not be all torn up about it or go into a shell, but actually nurture it with the idea that this is going to work out good.

This all came about over a period of time up through the latter half of the sixties and into the seventies as a way of doing business. But what really institutionalized this way of managing was that those managers who really had accepted behavioral science techniques as a way of managing seemed to be the ones who were getting promoted. They were the ones that were actually producing and getting credit because they were better managers. This became very obvious then [that] this is a way of doing business. The heads of the agencies--the chief and the staff and the forest supervisors and the regional foresters--accepted this too. So again, it started really from the bottom up.

Torheim: The last folks, I would say, to really accept this as a change of style were the people at the Washington office. But that's only natural. The felt need was at the ranger district level. You had new people. You had a whole mix of people other than foresters. The conflicts were there, and could be dealt with. And the younger people, the people that are always tapping on the egg shell. In my judgment (and I think others, probably in my peer group, would support that), I think that was a milestone of change in the way the Forest Service has done its business.

Adapting to Change, Dealing with Conflict

Lage: I would think that your peer group would be a key group, as the ones who came in under the old style, but had to adapt.

Torheim: Yes.

Lage: Did you find that a lot of them fell by the wayside? If they had been attracted to a certain style in the Forest Service, how well did they do when it changed so drastically?

Torheim: That was a highly individual thing, I'm sure. It's hard for me to say. I don't know of anybody falling by the wayside so to speak, although there must be some who did. When I was in personnel management, I began to learn about these things personally for the first time. You don't otherwise so much, but in personnel management lots of people came to consult with me about their careers. It had nothing to do with change so much but just careers in general.

Torheim: There were a lot of people who were not achieving their career expectations, and this is true in any organization. But I was never so aware of that until people would come to see me because of my job. We'd have a chance to talk and look at the alternatives. I think perhaps this abrupt change--I shouldn't say abrupt, but a rather short span of time anyway--this change from a more structured type of management style to a more open style really did trouble some people and made it difficult for them to move up because they were already locked into the old style of management. That was standard procedure for them.

Lage: Also, I think it fits with a certain personality structure that's hard to change.

Torheim: Yes, that's right. It's awfully complex and in an organization as you move along, a lot of it's pure chance. One doesn't take his or her career and design it and then proceed. He may have some goals but, gee, there's an awful lot of chance! It walks you around from here to there as you move along. But that's life; that's what makes it exciting. I'm sure this happened too.

At any rate, this is the way the Forest Service does business today and it's really not labeled; it's understood. I suppose as time goes on, there will be further evolutionary changes as society changes. But it's made the Forest Service very adaptable over the years. The Forest Service has adapted quickly to the norms of society and the society that it serves. That's been the strength of the Forest Service.

Lage: Do you think this helped in dealing with all the increased level of public involvement?

Torheim: Very much, and that's how the Forest Service actually became a leader in government in public involvement in a field that was never touched.

Lage: Some of the same skills--

Torheim: The same skills, yes; the ability to deal in conflict situations, the ability to understand the group process and the communication process, and the ability to actually create synergism to get the best answers. That's all a spin-off from the adoption of behavioral science techniques. This is most unusual to me because foresters, engineers, and biologists of various kinds, which really make up the bulk of the Forest Service work force, had zero education, most of us, in these fields. So, many of us were boning up. I read psychology books. I attended classes, seminars. All of us did for these kinds of subjects that we never got in school.

Lage: Has any of this filtered down to the professional schools so that they do train--

Torheim: Oh, sure, sure. Still not so much, but then the Forest Service picks this up by continuing these as inhouse training programs. It was pretty exciting to get into these fields because I used to consider these as rather theoretical ivory tower sorts of activities and probably would have, too, if I had taken it on campus. But if you can apply it to your real job and see immediately whether it works or doesn't, that does make it pretty

Torheim: exciting and makes it useful. So this is what took place and then, of course, getting into the conflicts that emanated from special interest groups having different views about how the public lands should be classified and all, there was work to do with these new techniques. I guess that's about my view of it anyway.

Cliff and McGuire: Managerial Styles Illustrated##

Lage: You had something you wanted to add on differences in style.

Torheim: Just a little personalized input to illustrate changes in management style we were talking about. Ed [Edward P.] Cliff was chief of the Forest Service [1962-1972] had come up through the organization in the traditional way we had spoken about. He was a very capable forest supervisor in southern Oregon. He came up through experiences with a heavy fire forest, lots of management problems in the thirties with arson and everything else in this forest. He was a good manager. He worked his way up as regional forester and through the ranks and eventually to chief in the characteristic way.

[He was] well-liked by everybody. We knew exactly where Ed stood, the typical espouser of scientific management principles. When I was in the Washington office I used to on occasion attend chief and staff meetings in Ed Cliff's office. Ed had a rectangular table, and each of the deputy chiefs had their chairs around this rectangular table. Then Ed managed the meeting. They always sat

Torheim: in the same chairs. The associate deputy chiefs had chairs away from the table and generally kind of behind their deputies. Then those of us in staff roles would come in to make certain inputs on certain items of the agenda. We sat in kind of a peanut gallery off to one side. Now, this wasn't a big room. It was a rather small room. But it was very structured. The interaction then was also quite formal. I don't mean stuffy, but rules were certainly well understood if not written down [chuckles] on how one communicated. It worked quite well.

There was a real shift when John McGuire succeeded Ed Cliff [1972], and this was noticeable to all.

Lage: Were you in Washington?

Torheim: No, I was in the field then. I was deputy regional forester in Region 6, but we go back frequently to Washington and deal with the chief. John McGuire was one of the early people in the behavioral science input to management. He was director of the southwestern experiment station at Berkeley. He was quite an espouser of new principles of management. He had come out of research and so he was a little closer to the field later in his career. His personal style was different, too. But it was quite noticeable what John did differently then about these chief and staff meetings. He didn't use a rectangular table. It was gone. He had a very large circular table in the middle of his room, and he and his deputies sat around the circular table, so they were interacting eyeball to eyeball. It was a low coffee-type table.

Torheim: Then the others, the associate deputies and those of us who had come in to make inputs, we just sat casually around where we wanted to pick a chair. John then stimulated conflict and conversation. In fact, one of his techniques was if they weren't getting enough input on the problem to be solved he would be a devil's advocate or he would say something that was certainly challengeable and stimulating. That's the research approach, by the way.

So it's an interesting difference in styles even to the very furniture in the chief's office. [laughter]

Lage: Were you quite aware he was only playing the devil's advocate, or you weren't quite sure?

Torheim: Oh, yes, quite sure. He always used that technique very openly--no games.

Lage: He came out of the research branch?

Torheim: Yes, most of his career was in research.

Lage: Was that unusual?

Torheim: No, Ed Cliff's predecessor, Dick McArdle was also out of research. Chiefs have come both from administration and research. Well, I thought that was just a little story illustrative really of a small part of management activity, but it expresses not only a little difference in personnel but a little difference in managerial style to be more at harmony with the way the outfit was moving.

V THE FOREST SERVICE ORGANIZATION: CHANGES AND CHALLENGES

Reorganization in the Seventies##

Lage: Should we move to more discussion of the reorganization in the Forest Service?

Torheim: Yes, let's do that. I'll probably have a little trouble with dates and all, but I can get into the general area. The Forest Service had, as we talked about earlier, the line/staff type of organization with the assistant forest supervisors and assistant regional foresters having line direction in their activities. We talked about that quite a little bit. Now then, as we moved along with getting more and more different kinds of people in the organization, beginning to introduce behavioral science principles into management, the drifting away of scientific management and more authoritarian type of management, and learned more about the participative approach to getting the job done better through team action, it soon became obvious that the line/staff organization wasn't working all that well.

Torheim: Land management planning had an influence on it, too. There was a lot of what we called functionalism. Functionalism (and it's not a very good word, but for lack of a better one I'll use it) meant that we dealt with a bag full of functional activities with strong, directive staff members pushing their activity at the expense (now, this is a bit of a caricature), but at the expense of the other activity. The supervisor had a lot of trouble sorting out all of this direction he was getting from assistant regional foresters who were pushing their own program, and likewise the ranger was having trouble sorting out priorities among all the direction he was getting from the various forest staff members, and playing the budget and fund allocation game at the same time.

This wasn't working well, as the job became more complex--land management planning, trade-offs, increased work force, and that sort of thing--and our increased awareness about what was happening to us. So it looked like maybe a different kind of organization was needed. Also, at the same time, with the tremendous increase in work load brought about by new legislation and more public interest in national forests, the ranger couldn't keep track of everything in a big district anymore personally. The forest supervisor couldn't run every ranger district like he used to either. He couldn't keep track of all this stuff. All the public job--public involvement and contacts with the public--this is all part of the things that were happening in the sixties.

Torheim: The generic term for the managerial grid system and the introduction of behavioral science was called organization development. This was the generic term for all of this activity we talked about earlier. The objective there was to improve your organization along the lines that you thought needed improving.

Lage: Was there a particular individual who was connected with pushing this?

Torheim: No, this was pushed from all directions, and that's what's interesting about it. It's kind of like I described the move for multiple-use planning to land management planning. There was a general overall feeling of dissatisfaction. No individual pushed it at all. It was at the field by the way, at the field level.

Field Experimentation for Structural Change

Torheim: Again, experimentation seemed to be the way to make this change, if necessary, work out. Some forests were selected by the chief and the regional foresters to do experimentation. One of them was the Eldorado National Forest in California, and there were some others too. But they began to experiment with organization change, a little different type of staff alignment, more deputy supervisors and that sort of thing.

Again, [with] the intense interest and competition and need, other regions wanted to get in on it too. So here we go again!-- which is healthy. In every region there is always a forest, a

Torheim: change-agent forest, somebody willing to try. So it turned out that several regions, with or without blessings from the Washington office, began to do some organizational experimentation-- not going outside of the directives from the chief, but really teetering on the edge.

After a while, the chief acquiesced (let me put it that way) because a lot of people had already started organization change without the blessing of the chief, so the chief said, "Okay, let's try this." We found several regions trying organization change, but it wasn't well-directed, kind of like the land management planning, and it got out of hand. But I think in retrospect it was useful because it caused a lot of experimentation to take place.

Lage: Where were you as an observer? How were you involved in this?

Torheim: I was deputy regional forester in Region 6. We had some forests in Region 6, and I guess every region did, that were trying different ways of organizing. With the informal communication systems between regions and forests, these supervisors would talk to each other, and they'd get new ideas. I don't mean anything dramatic was happening, but we were trying to learn how to change and cope with all of these ways of doing business. Usually on the forest level, it was decided to consolidate the various resource activities so the forest supervisor wouldn't have so many subordinates. In some of these big forests, the supervisor would have thirteen staff people and six rangers all reporting to the forest supervisor. So that was where the problems were in the larger forests.

Torheim: The upshot of this was that this [experimentation] couldn't go on, so the chief grabbed hold of the thing and kind of stopped the action of experimentation and based on the experimentation, laid out some organizational structures for forests that would be okay. They could work within these various organization patterns. Then eventually this was done for the regions as well. They were done together. This happened about 1972.

Multiple Deputies and Line/Staff Adjustments

Lage: What was the actual outcome?

Torheim: The basic change was, in most cases--well, all of the regions were organized the same. (Let's start with the region.) I'll talk about the western regions because the eastern regions have a little different responsibilities for state and private forestry. But the western regions typically had a regional forester and a deputy regional forester. The regional forester and deputy occupied the top management slot as a unit, the typical alter-ego deputy type.

Then there were assistant regional foresters for each of these activities that we've talked about, not just in resources but also in business management and state and private forestry. Now, that was quite a span of control when you think of all of those staff people reporting to the regional forester and deputy, plus all of the forest supervisors. There can be as many as thirty or forty people. The new structure consolidated the assistant

Torheim: regional foresters into groups under multiple deputies. So the job that I had as deputy for Region 6 was changed to deputy for resources, which meant I was responsible for all of the resource management activity, but not for state and private forestry anymore and not for business management. There were two other deputies that handled that, one state and private and one in administration. This was the same organization for all of the western regions.

Lage: Then the staff people would report to you?

Torheim: Yes, the staff people reported to me. Now, at the same time the role of the staff, or the assistant regional foresters, was changed. They were no longer assistant regional foresters. They were called directors of timber management, directors of fire, directors of wildlife, and so forth. The line/staff was eliminated; they were staff. So they could not direct a [forest] supervisor. The deputy's job was to coordinate this activity, so that policy and personnel selection and budget formulation was done through the deputy, from the forest supervisor through the deputy. Of course, the interaction takes place, but the responsibility [lay with the deputy], and conflict was resolved that way.

Now, the forests were organized a little similarly, but forests differ in size and mission and geographical location. In essence the roles of the staff people on the forests (the assistant forest supervisors) were changed also. That was a profound change.

Lage: You mentioned yesterday that these staff people had had personnel powers--the selection of personnel.

Torheim: Yes.

Lage: How did that work?

Torheim: Say a region was going to select a forest staff person or a forest supervisor within the authority of the regional forester. Typically, this would be done with a selection committee made up of the regional forester and all of the assistant regional foresters in the staff organization with input from personnel, maybe some input from the forest supervisor and maybe not, it depends on how that particular region was managed.

If the selection was to be, say, for a forest staff person in range management, the assistant regional forester for range management really had the most say about that and very frequently it was his recommendation that prevailed. Sometimes that was not acceptable to the forest supervisor, but he had to take it anyway.

Also, the review of promotion rosters and the general personnel activity was done that way, again with the assistant regional forester in charge of the activity, having the dominant say about the people who were moving along in the field in his activity. Again, frequently there would be conflict--not always, but sometimes.

With the new role of directors then, they didn't have this kind of clout so to speak. They would advise the regional forester about who they thought ought to be selected, but then there would be a smaller group probably just a few of the assistant regional foresters. It depended on the system that was used, but it would be a smaller group, and he would just recommend. He wouldn't veto.

Torheim: Before the reorganization, the assistant regional forester had an out-and-out veto--maybe not formally written down--but by golly, if he didn't approve, the regional forester absolutely wouldn't go along with the choice.

There was more debate and then in many cases the supervisor had something to say about it. He could make an input. Sometimes he was overruled, but at least he was part and parcel to the decision-making process, instead of wondering who they were going to send him. So this changed it.

That had really been a job-satisfying activity for the assistant regional foresters, that many of them felt they had lost. There was a sense that they should watch the people coming along in their activity and keep close track of them, and they had lots to say about the future of the technical expertise in the outfit, particularly in the staff roles. Then in selecting line people like supervisors they had a lot to say too. Sometimes if an assistant regional forester didn't think that a person was suitable they weren't selected. The regional forester paid close attention to his staff in these matters, again often to the dissatisfaction of the supervisor. This was shifted around.

Reaction to Changed Staff Responsibilities

Torheim: Again, many of the now-called "directors" thought that the supervisors had just rejected them, that it was just a matter now between the regional forester and the supervisors and they were just clear out.

Torheim: They weren't even asked anymore. Now, this is a caricature again, but some of them felt pretty strongly that way.

Lage: You must have seen this at close hand from your job.

Torheim: I was very much involved with this, yes. I was an arbitor lots of time between the staff person--the director--and the supervisor. Again this was an individual thing. Lots of people were, in fact, quite comfortable with this change.

The other power loss (job satisfaction) that many directors felt was the inability to influence fund allocation. Some felt very strongly that the funds should go to those supervisors who, in the judgment of the director, were making the best use of those funds. After the reorganization, of course, it was more formalized. All the directors did was to recommend, and then the deputy would make the decision. Then we moved over toward a more management by objectives kind of thing.

A number of directors at all levels--and this was true at the forest level among the staff people, the Washington office level, and the regions, it was an individual thing--felt that their job was much diluted. I noticed, however, that this wasn't universally true. Some of the former assistant regional foresters moved over to the director role or changed their way of operating quite easily and comfortably.

Lage: Did some move up to the deputy role as well?

Torheim: Yes, oh sure, but there aren't too many of those jobs. But what I think I noticed mostly was that people coming into the director's jobs for the first time, with their role established before they

Torheim: got the job, had no trouble at all with it. So over time this was taken care of.

What interested me was that we were very much aware of this, because we had a greater sensitivity of how to work together, we actually critiqued this problem, talked about it. It was there. In years past, that would have been kind of underground. You wouldn't have talked about that kind of a personal thing. No, we put it up on top of the table and dealt with it.

Lage: With the individuals involved?

Torheim: Oh sure, you bet. We talked about it, how we were going to overcome this. So that was kind of a healthy way of dealing with it.

Lage: Was it effective in bringing planning in a more unified--

Torheim: Yes, I think you'd be honest to say though that there are still some who would say, "No, it didn't do anything." That's an individual judgment. My own judgment is that after the trauma of change was overcome, it works well now. But some other things have happened. Some of the supervisors finally realized that they had indeed pulled away from the staff--"Gee, this is great; my shackles are gone"--and they quit communicating with staff directors. What they discovered was that the quality of work on the ground that the director and his staff can help them achieve was missing. Then they began to have a self-awareness that if they didn't really open up the lines of communication between their staff and the expert staff in the regional office, they were going to [lose] quality thereby. So they got back together so to speak!

Lage: The staff person for timber management in the regional office didn't have a line at all to the staff person for timber management in the supervisor's office. That wasn't a direct line either.

Torheim: Yes, it was; informally, a very direct line. You bet. In the old system that was a directive line as well. In the new system that's a consultative line and a quality control line. But you see why the supervisor and ranger sometimes felt that the staff was really running the show because he had direct staff communication from Washington to the regional office to the forest, and the ranger was directed to perform. The regional forester and the forest supervisor never got involved. Now, that would be a worst case example, but it could happen.

But any organization structure change by itself isn't good enough unless the people make it work. There's the old cliché that a good bunch of people can make any organization structure function. I think that's still true. But what interests me is that this change was brought about through field dissatisfaction and a felt need by the field. It wasn't imposed by the Washington office. In fact, the Washington came along somewhat reluctantly I would say after the fact. But that's okay. I think effective change is made only that way.

Lage: The sense I get is that the dissatisfaction on the field level was related to the change in their missions, the new needs.

Torheim: The new need. Not so much mission change, but the greater complexities of managing the national forests--public awareness,

Torheim: new legislation, a different mix of people instead of just foresters, Job Corps--they were all together.

Lage: It's such a complicated--

Torheim: Complicated; yes, very complex.

From Inspections to Management Reviews

Lage: We haven't talked about the inspection system and the way that that changed. Is this a good place to go into it?

Torheim: Yes, it would be involved. The inspection system in the Forest Service was a very useful tool in management and really has kept the outfit together getting the job done rather uniformly and well I think, between regions and from top to bottom. That was developed, of course, out of the scientific management principles of the twenties, the militaristic background of management and some of the good things that come out of that kind of management activity. The Forest Service used the inspection system for more than just quality and quantity control as we mentioned earlier. It was also used for training.

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Torheim: The inspection system was quite structured. Generally it was made up of several kinds, but the principal kinds of inspections were first of all functional inspections. These were inspections carried out in a functional activity like wildlife management or watershed management or fire or timber. [It was] conducted by the staff person at all levels, by the way. The Washington office inspected

Torheim: the region, the region inspected the forest, and the forest the ranger district. So functional inspections were carried out on a regular programmatic basis periodically over time. That's the way the Forest Service really maintained quality control and perpetuated training because there was lots to be learned this way.

Lage: Was this a tense event for the ranger?

Torheim: Let me talk about styles again. I'll describe the types of inspection, and then I'll tell you how they were really carried out. Within the functional there was also a limited functional. Take fire management. A general function will be all of the activities in fire. A limited functional might be a slash burning activity (a piece of the fire activity).

Then there were the G.I.I.'s (general integrating inspections) at all levels, which looked periodically at the whole management picture--all activities together. Then there were special audits required often by law--personnel audits and fiscal audits principally. So this was all part of the inspection system.

With all the background that we talked about earlier, that inspection system didn't work well within the context of the new organization, the new way of managing the Forest Service and the moving away from functionalism with all of its board fence syndrome to a more team-oriented way and integrative way of managing. This time again, there was experimentation at the field level in various ways of changing inspections. Certain regions

Torheim: like Region 1 were selected formally by the chief, in this instance, to try out some new ways of inspecting. The upshot is that out of this experimentation and a really felt need again, the inspection system was changed to put together management reviews mostly based not just on periodic scheduling but on perceived need. Also it was a participative type. Really the change was made more in how it's done rather than what was done.

Let me describe the way that the other inspections were carried out. With the old type of inspection carried out from one level of the hierarchy down one notch, naturally you'd find the problems of gamesmanship and some of the negative things, along with all of the positive things that occurred. Now, I want to say right at the outset that I always thought personally the inspection system had many more positive things than negative. But the problems that would come about would be the usual problems of trying to show your best face and not really laying out your problems much. Problems should be discovered by the inspector-- this was the inspectee's point of view, if you want to carry it to the utmost.

If you generated problems or demonstrated problems to the inspector sometimes really you didn't get much help. All you got was a poor report, and then you had trouble crawling out of the hole. Now, compare that with the present type. The present type of inspection is a problem-generating activity by the inspecting group and the inspectee who work together as a team, and it's problem-solution.

Lage: So the ranger wouldn't feel threatened to bring up the fact that he had a problem.

Torheim: No, there's no threat. Right, that's the whole objective. So there's a complete change in how that's done.

Lage: Now, it really happens that way? The ranger is not looked at critically because he hasn't been able to solve his particular problem.

Torheim: No. Besides, it's no surprise. If a supervisor and the regional people are doing their job, they know currently how a performance is taking place anyway through informal visits and the usual interaction, so there aren't any surprises. Usually there are truly management problems that need solving, and they're laid out. The old system was based more on discovery. Now, again that's a generalization that wasn't always carried out that way by individuals. Certain individuals didn't believe in that and had a personality and a way of looking at the world around them that permitted them to actually do problem solving even under the old system. We had certain people who were candid and above board that could make even the old system work well. But generally it didn't fit the new way of managing. In my judgment, the new system (the management reviews and the program reviews) are working quite well.

Now, keep in mind that also under the old system, the assistant regional forester and staff people generally were directive. Remember, they had line direction, so there was a high level of threat there to one's career. There still is a

Torheim: threat if you don't perform, but it's based really on that performance and not on discovery and game playing that might take place.

A Growing Openness in the Organization

Lage: Now, the other thing that occurs to me (and this may be wrong), as you describe the new plan, you're describing it from the point of view of a higher-up, whereas you were down in the bottom of the barrel during the older system. Do you think that you're in touch enough with how a ranger perceives it now--?

Torheim: No, I'm not naive enough to believe that. One of the prices you pay as you move up in the hierarchy is that you don't really get all of the bad news from below. You have to really understand that or you can't function. So I'm sure there must be all kinds of problems that people are solving today, too. There always will be and that will cause further change in the future. It's only natural that if you have something to do with instituting and installing new ways of doing business you have a lot of ownership and you feel good and positive about it, and you're sure it must be working beautifully at all levels. But it's probably not!
[laughs] So I don't deny that.

Lage: On the other hand, if it's not as authoritarian an organization, you probably know more about what's going on.

Torheim: I think so, and we've had enough external feedback, I think, to reinforce that. One of the things that you get from almost any consultant that comes into the outfit or, even the public, is the

Torheim: openness of the Forest Service, the willingness to lay things out in the open, the nonthreatening atmosphere and kind of a general aura of constructive candor that seems to be an inherent characteristic of the outfit. So I think people feed back better than they used to.

Also, the young people in the outfit aren't inhibited. They're not overwhelmed by organization. I was kind of overwhelmed by just the organization itself when I came in--the expertise of everybody, and where I sat, and that sort of thing. The young people I've met with today, they just lay it out. My children do that, too. So there's a different social conscience and social behavior in the nation that the organization has too.

Lage: Less fear of authority maybe.

Torheim: I think so and just a general more openness. I think so. .

The Forest Service on the Defense: Public Involvement

Lage: Some of the reading that I've done sort of contradicts a couple of things you've said. In reading about public involvement, for instance, a couple of the studies that were made mentioned that the Forest Service was terribly defensive in dealing with the public and very threatened. Now, this of course was back say in the earlier part of the seventies.

Torheim: That's true. We had a real tough time in the organization to really get aware that the good things that we thought we were doing in managing the national forests really weren't thought to

Torheim: be so good. We felt sincerely that they were. Besides, as I mentioned earlier, the Forest Service always was getting pretty good feedback--but it was pretty small feedback, as we talked about yesterday--and not really much feedback by people who didn't agreed with the way we managed; mostly by people who agreed. So it was kind of a shock to us in the outfit, who were convinced that we were doing a good job, to hear from so many people all of a sudden, practically, that all was not that well. So, yes, we got defensive. Then we sought to find a way to prove to the public that things were okay. But I think the turning point was when we got into a massive public involvement effort nationwide for the first time, or western regionwide, in the so-called RARE I, The Roadless Area Review and Evaluation, for the first time, trying to segregate out wilderness for the future.

That was the most massive attempt at public involvement that any government agency or private agency as far as I know had ever engaged in. We were pure amateurs at it. But we had a dedicated purpose to really make it work. That changed everything in my judgment. Then we really got feedback--honest feedback--from a broad spectrum of the public. Because of the new ways of managing, we didn't find conflict so threatening. Now, many individuals did for a while, but it became more--

Lage: You get de-sensitized to that kind of thing.

Torheim: Well, it didn't seem so personally threatening because you could work on the issues, and we used to take it personally because when you work with forests or live in the forest, you have a lot

Torheim: of ownership as to how that land is managed and you feel that if people are criticizing land management, they're criticizing you personally. We got over that and got to working with things-- of course you can't get away from people. You still have personal responsibility for your actions but at least you could get down to dealing with conflict on a land allocation issue for the merits of the case by various interest groups. So, yes, this was a tough change but I think the Forest Service accomplished it. It took several years.

Lage: But there is still a lot of attacks, and you still are in a defensive posture.

Involving the Public in Management Decisions

Torheim: I think there always will be. I think that's healthy. It's the way society is put together. I know this is an oral history, but if you want to look ahead a little bit, here's my judgment of where we're headed just briefly, and I think it's the way we ought to go.

As I mentioned earlier, the public generally was not interested for many years directly in what we were doing in managing national forests. Then they became terribly interested particularly in the land allocation issue and resource allocation issue. This is continuing today, but I see that the land allocation issue through legislation and land management planning is going to be dealt with pretty soon. What I see then on the horizon is

Torheim: that the public interest groups will begin to be watching how the national forests are managed--are they being managed to a quality standard and are they being managed within the confines of the law and the land management plans and the resource plans. So I think we will see a transition, I think a very healthy one, for the ranger having segments of the public watching how he does his business everyday.

Lage: Do you mean how he cuts his timber?

Torheim: You bet--some of the nitty gritty.

Lage: You don't find that threatening?

Torheim: Oh, no. I think that's healthy. In fact, we were preparing our people for that in Region 1 just before I retired. We were actually preparing for that. It won't happen all of a sudden, but we see some evidence of that already. Why not get ready for it? So we found rangers inviting more and more people and interest groups right out to the woods to see what we're doing here.

Lage: When you invite them up there is it kind of a "show me" effort?

Torheim: It used to be, it used to be. Now, we invite criticism. It used to be. Gosh, it used to be a "show me" trip and you put your best foot forward, and you showed all of the good things you did and put up signs and the whole works. No, no. [laughs] No more! And I think that's great. That's the way it should be.

Lage: So maybe you're involving them a little more in some of the problems that you have as well.

Torheim: Sure, that's what public involvement is all about. It should be an integral facet of the management activity--the way you do business--and beyond the land management planning, eventually, as I think anyway, into the actual techniques of management.

Lage: That's a long way from considering the forester as the expert.

Torheim: Right.

Lage: Do you think the public is becoming more expert in the field?
Is that one reason that you are able to--

Torheim: Those who are interested enough to do it, certainly are, I should say. Take a look at forestry courses and classes on the campuses today. It used to be that only forestry majors were in forestry classes, and they were darn small classes, many of them. Now forestry classes are huge classes on many campuses because there are lots of nonmajors taking forestry electives or taking minors in forestry. There are also people taking forestry who never intend to practice forestry, just like people who take law but never become lawyers or whatever. When I say "forestry" I mean in the broadest sense.

Other resource courses too--wildlife biology, soil science. There are not just professionals in these courses anymore. So that, plus the general interest of lots of people, plus the organized groups that make it their business to kind of watch how the public lands are managed.

Lage: How do you feel after one of these plans has been developed in such an intricate fashion with all of the public involvement and then it's set aside by a court decision?

Torheim: Oh, I feel very neutral about that and wish we could have done better. I used to feel defeated and [that it was a] disaster. No more! That's part of the process. Now, I don't mean to say that one gets cynical about it because you do feel disappointed. But what you do is go back and find out where it went haywire and do it again. That's been done many times.

Lage: It sounds as if at least you personally are able to really step back and take a more objective view.

Torheim: Yes, and I think our managers are. The people who hurt on those kinds of things are the technicians who really put their soul and body into that. The managers today in the Forest Service, if he or she can't take that, they can't be managers. They have to regroup their forces. But it's easy to see where the technicians who put all of their professionalism and technology into those plans really feel put down. Particularly the pesticide issue, where they know through scientific evidence that 2, 4-D is absolutely not toxic. The professional can show you the scientific literature for thirty years on this. What they don't realize is that it's not a scientific question. It's a political question. That's tough for the technologist and scientist. It's really tough. But if the manager doesn't believe it's a political issue and deal with it politically, I mean with a small "p," as well as a large "p," then he'll miss the boat. He won't get the job done. So that's what it's all about. I guess we're philosophizing a little here! [laughs]

Political Responsibilities of Field Administrators

Lage: We talked just briefly yesterday about the political responsibilities of field administrators, and we were going to discuss that further. What were you talking about?

Torheim: Let's take it in an historical perspective again. First off, I want to say again that there has been, historically, marked differences between regions. So I'm going to speak really for the western regions and my own experience, particularly Region 6 and Region 1. The job of dealing with members of Congress in particular (the senators and the representatives), at least in my experience in the western regions, was handled for many years quite closely by the regional forester and his immediate staff and by maybe a selected supervisor now and then, but again closely directed by the regional forester. Now, the reason for this was that it was thought that the supervisors and rangers had little opportunity to get very sophisticated in dealing with members of Congress and might really step across the boundary of the separation of powers or would get into a political hassle and put themselves in jeopardy as professionals when they really are carrying out the mandates of Congress. So the general feeling in the field then was that we should not be political, so to speak, and we shouldn't really have any oral communication. Now, that doesn't mean that when congressmen come out to the district that you don't show them around, but they were usually escorted by the regional forester or by the forest supervisor.

Torheim: So I would say that the communication in the field with members of Congress was extremely limited. In the seventies, with the proliferation of new laws and with the increased public interest in the national forest and all of the conflicts and special interest groups, congressmen began to get (in the West anyway) terrifically sensitized by national forest issues. In fact, they became campaign issues very often. In Region 6 this meant that the regional forester even hung on more tightly to that. Charlie Connaughton, who was regional forester, and Herb Stone before him, both espoused this philosophy--not to put the field folks in jeopardy.

The level of activity became so great, finally, and the members of Congress themselves began to communicate informally with forest supervisors that this became very hard to manage.

Lage: Would the members of Congress be trying to affect policy on the forest?

Torheim: No, not really. No, they don't do that. But you can fall into a trap. I'll give you some examples as we go along, particularly on when you have interest groups that have different opinions and the congressmen were trying to sort them out.

Charlie retired in 1971 and Rex Resler became regional forester and I became deputy, as we talked about earlier. Then we began to think--and, of course, this had been developing while Charlie was regional forester, too--that we really ought to find a way for our supervisors to communicate with the members of

Torheim: Congress. For instance, all the congressional constituent mail used to have to come right to the regional office and be signed off here--every one of them. I was doing a lot of this.

Lage: Any mail to a congressman they would send straight on over to the Forest Service?

Torheim: Yes, indeed. You bet. A congressman would write to a forest supervisor sometimes (or staff) asking about this problem--this constituent was unhappy or wanted information. That supervisor would send a copy of that letter right away to the regional office. He would write a draft reply, and it would come to the regional office for my or the regional forester's signature, and then go back to the member of Congress. We kept tight control, and that was to be sure things were done properly.

We were having trouble being responsive. The communication time began to lengthen because there was such a volume of this activity. All these things were happening gradually. So Rex and myself and the supervisors and the assistant regional foresters put on our thinking caps about how we might want to change this. We decided we ought to really find some way for the forest supervisors to respond directly. So we opened the manual a crack and permitted the supervisors to respond to some things but not to others. Then we let them get a little experience, and we had some training sessions in congressional relations and all. Anyway, finally over time, that's opened up now so that there's free communication between forest supervisors (not so often rangers)

Torheim: and members of Congress and their staffs. It's quite normal and it's not controlled. The timing is controlled, but at least the communications can be made directly now formally between the forest supervisor and members of Congress.

Lage: But you don't find the congressman--I would think they would have a tendency, if there's a lot of constituent dissatisfaction, to try to influence your policy directly.

Torheim: Oh, of course, and they do. That's always been the case because if you get a letter from a congressman about a problem, you're sure as heck going to find out what it's about. Many constituents use the congressman for leverage. That's okay. That's just another input. Now, that's on things. It's "this special use permit" or "this road" or "this timber sale" or "my contract," that sort of thing. Those are pretty straight forward.

Forest Service Input on Legislative Policy

Torheim: The other increased level of activity in the political arena, though, has occurred in the policy formulation in legislative business, and that's a little more tricky. We didn't get involved in that at all much until recent years. That was closely held by the Washington office and, of course, still is. There are some definite routes to travel because in legislation in particular, the Forest Service being part of the executive branch then testifies for the president on positions. So you can't take positions in the field. Everybody understands that. But it's

Torheim: awfully easy to get in a bind if you're not careful. This has happened most recently with all of the wilderness legislation because there is so much of it and because the expertise really is at the forest level, that the forest supervisors now are frequently called upon to testify at hearings, to give technical information. They had to be careful that they keep it to technical and not to positions. Members of Congress are very sensitive to this too.

The real bind though is when the member of Congress gets in trouble with constituents when he tries to sort out some middle ground between polarized positions on wilderness, for example. Here's an example. The Alpine Lakes wilderness legislation in the state of Washington on the Snoqualmie and Wenatchee forests was in the hopper while I was deputy regional forester in Region 6. The member of Congress in whose district this was mostly located was Representative Lloyd Meads from Everett, Washington. Lloyd was putting a piece of legislation through the house, and there was a companion bill in the Senate that Senator [Henry] Jackson was sponsoring, to create an Alpine Lakes wilderness.

The Forest Service had a plan--this is a very typical case--the Forest Service had done its study and had a plan. The timber industry and other commodity users had put together a coalition and working group. They came up with a plan for an Alpine Lakes wilderness that was quite a bit smaller than the Forest Service plan. The Federation of Western Outdoor Clubs and the Sierra Club

Torheim: and others put together a similar working group and they came up with a wilderness proposal much larger than the Forest Service. This is very typical. This has been repeated in many pieces of wilderness legislation. Nobody disagreed that some of the Alpine Lakes area should be wilderness. This is north of Mount Rainier, very beautiful country. The question is how large should it be?

The congressman then had really three positions he could take to produce a bill. Naturally, he was trying to seek the compromise position. Without getting into all of the details, frequently the Forest Service study is typically somewhere in between, so that generally they use the Forest Service study and then build their legislation out of that; then through public hearings [they] will modify it. It never gets to be as large as the wilderness interest group wants, nor does it ever become as small as the commodity interests want typically.

The problem is though that the congressman or senator latches onto the Forest Service study, and this becomes the basis for a bill. A lot of the public interest groups and the members of them attack the Forest Service then because that's the one that he selected. Well, everybody knows that it's not necessarily going to come out that way, but that's a convenient one for him to select because it's typically in the middle. So then the lobbying goes on and the forest supervisor is attacked in editorials--not always attacked--but it's espoused to be the Forest Service position. It really isn't at that point because the Forest Service hasn't been called upon to testify yet.

Torheim: But anyway, there's an awful lot of lobbying going on at this stage of the game. The forest supervisor gets accused of generating wrong information--"his study information data is no good"--by both parties. So it puts you in a bind, a national public bind, that in the past our supervisors never experienced at all. So they've got to handle this quite astutely, and I must say that most of the time they do. But they have to really know and learn about the legislative process and the political process.

So now our supervisors are very sophisticated in this area. We have training sessions for all of our forest supervisors nationwide in Washington where they actually visit committees of Congress and get accustomed to them. Many of them have visited congressmen annually to keep them updated on what's going on. I think they do a marvelous job. Now, this interestingly enough is not new to the supervisors in the East and the South. They've been doing this for years.

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Torheim: In the West the national forests were created out of the public domain and in any given state there are a number of national forests. In the South and the East, the national forests were created under the Weeks law through purchase of private land (much of it went back to counties for taxes) and other purchases and donations. So for example, the southern region, with headquarters in Atlanta, extends all the way from Texas to Virginia. The eastern region, with headquarters in Milwaukee, extends all the way from Maine to Minnesota and West Virginia.

Torheim: So supervisors really have to represent the regional forester in their states. The regional forester couldn't take care of that many members of Congress. So they characteristically dealt on a state basis as an arm of the regional forester with the members of Congress. Now, of course, the issues there over these years were mostly local issues pertaining to that national forest. In the West, because of the wilderness issue and the need to allocate these lands, they were national problems on the western national forests. So that's why everything was held so closely until finally the volume of activity got so big, the forest supervisor had to be expert in dealing with it. So that's the reason.

Lage: As you describe that process, how the Forest Service became involved and is now involved in the political process, it sounds as if the Forest Service takes a very passive role--they're drawn into it, and then they have a need to be able to testify. Is that always the case or does the supervisor ever try to promote his plan through the political process?

Torheim: No, no, he certainly doesn't do that. You have to really make that distinction because that can turn on you. That's not the role of the supervisor. The role of the supervisor is to keep the member of Congress informed and to make technical input in a formal way. The Washington office takes on the chore at committee hearings in Washington to represent the administration, but frequently the supervisor will go back and assist from a technical

Torheim: point of view. But he really has to be sure that he stays in that role.

Now, this sometimes is difficult, and that's the dilemma, because in high spirited debate, one interest group or another will accuse the forest supervisor of lobbying for his position. That may not be true, but they try and make a case that way. The supervisor really has to establish a record of not having done that. There's been many times in the heat of debate with polarized groups who feel very strongly about their position, and the member of Congress trying to sort this out and satisfy both sides, [that] the heat really becomes more intense than the light. It takes a very astute forest supervisor not to get defensive about his study plan and start lobbying for that.

Lage: I would think that would be hard to do.

Torheim: Yes, he really has to know the political process. He has to know his role, and he has to stay with it. Sometimes that doesn't work out so good. They slip a little bit in the heat of the battle, and we have to pull back. But that's a new role for the western supervisor, and a very high risk role, that our folks as managers had never learned and had to learn through doing. Now we have training programs, hopefully before they become supervisors or soon after, to become acquainted with it.

Lage: The supervisor's job sounds a lot more difficult than it used to be.

Torheim: It really is. Oh, I should say so.

Computers: A Management Tool, a Tool to Manage

Lage: We wanted to get into the question of computers and I thought you had a very interesting way of describing computers--"a management tool, a tool to manage." What brought that characterization to mind?

Torheim: It's just my perception, I guess. But it's an interesting story and, as I've come to learn over time, not really peculiar to the Forest Service. But here's the way it happened with the Forest Service. A computer was used by the Forest Service pretty early in the game when it became part of getting the job done as an accounting tool, like a big calculator. Most regions had computers not too long after World War II, but again they were used for payroll, engineering, road design, and mathematical types of things. So they were really run by the technicians and they were budgeted for getting technical work done.

Most of us didn't know anything about computers. We had no education in that, and we (managers, generalists) regarded the computer to simply be a number-crunching rig. Of course, as we all know, the technology of information systems and computer technology have advanced quite rapidly, and the machines became cheaper. Then the new people graduating from the universities came into the outfit with an education in computer programming and computer technology so things were changing at the bottom. We found, at least when I first was aware of it, when I was a staff person on the Rogue River National Forest, some of the

Torheim: new foresters coming out to ranger districts wondered why there was no computer.

Lage: How early was this? This was quite a while ago?

Torheim: 1961, 1962, in there. They had learned how to use computers. Computers were then beginning to be a little smaller. So that was my first insight that computers might even possibly be used on the forests. I thought they were things you used up in Portland or Washington or in the bank. Then first the technology developed rapidly. The first thing we did in Region 6, the first change that I can recall, was that we got into what we call "desk top" computers. These purchases were closely controlled so again it was done on an experimental basis. It was done for road design mostly (that was well adapted) and other kinds of activity--management planning, where you had lots of data, was done on computers. But still a central computer system was doing most of the work.

Then we got to the point where the computers were costing an awful lot of money. By that time, I was in the regional office and working on budgets and things and, gosh, it was clear into the early seventies when I was deputy regional forester that Rex Resler and I suddenly called a halt.

What we realized was when we looked at our budget, and we were trying to make savings here and there, that decisions we had made years ago (or somebody had) about the use of computers had mortgaged our souls for the future. Because once you put

Torheim: activities that used to be done by hand on the computer, you've lost the hand technology and you're wholly dependent on that computer to get the job done, or you designed your output needs to be more complex than they were and they can't possibly go back to hand cranking. So what we discovered was that decisions made at lower levels of the organization in project work requiring computers had mortgaged our opportunity to make any changes for the future. So we just had to stop to understand what was happening.

Well, this was happening simultaneously all over the outfit. I've learned since that industry had the same problem. The technicians had been managing the computers because it was regarded to be a tool to get the job done, and really its costs were not even being paid attention to [by] management, or decisions weren't being made in terms of priority or how the dollars were going to be used. Should we really get a new computer for this national forest, or should these dollars go for some other activity?

Lage: Do you mean this is more in terms of the purchase of computers rather than in the types of programs?

Torheim: Yes, and then the maintenance of them afterwards too.

Lage: But didn't they become essential in your land planning as it got more complicated?

Torheim: Of course, but by that time we had gotten hold of the management of it. The point is that the managers were not managing the use and the funding of computer technology. It was just kind of a

Torheim: given in the budget and then everything else was subordinate to it because we were locked in.

About that time, the Department of Agriculture was trying to do the same thing department-wide to get hold of it. So there were lots of stops and goes, and that's been happening periodically since, trying to get a management handle on it. The technology was advancing so rapidly, too, that the small computer--\$10,000 or less--became very feasible at the ranger district level.

Then we had to find ways to link these computers, to make the most of our money. Then we had the internal arguments about centralized computer systems versus distributive networks, with the department pushing for a centralized system and decentralized organizations like the Forest Service pushing for distributive networks, using outside and internal computers in a mixed network.

The upshot of all this was that a lot of managers really got turned off by computers--"stop the action right now; this thing is a monster." They didn't understand it either. I know that we felt that this thing had really gotten away from us because we had abdicated our management role. We spent lots of time working on the fleet of equipment (trucks and cars and all of that stuff), and how we managed that in cost-effective ways in deciding whether we were going to acquire new ones or not, but we just let this computer thing run itself with the technicians telling us that we got to have this computer for this! [laughter]

Torheim: This was felt service-wide, so the chief put together a study and I think now each region and the Washington office too have management involvement completely. There are all kinds of management committees to get the technologist and the manager together, and then management by objectives has helped so we can look out to the future. Also, of course, the technology of information systems has been simplified a lot so you don't have to put huge million dollar investments anymore into incremental change, into hardware.

So that's the small story of computers. As I say, it's been repeated, I'm sure, in many organizations but the Forest Service was awfully slow to pick up on it [laughs] until it became a crisis.

Lage: What about the proliferation of computer programs throughout the service? It sounds like there again was an instance where the decentralized development may have had some benefits, but also was inefficient.

Torheim: The benefit is, it stimulates creativity but it isn't always cost effective when you find that regions are re-inventing the wheel. But it does stimulate creativity. The trick is to find the middle ground where you can stimulate creativity by giving opportunity for experimentation, but then when you find something that works, let's spread it around a bit so everybody doesn't have to spend their own developmental time and dollars. That's really what's taking place now. It's going to be a while before it's all fixed, though, because a lot of people have ownership in these programs.

Lage: Yes, and the other thing I think would be difficult is managers without a lot of knowledge of computer technology having to make the decisions or evaluate them.

Management Information Systems

Torheim: The job ahead, and this has taken place now visibly for the first time, is the use of computers for management information. Still, the dominant use of computers in the Forest Service until very recently has been for a number crunching, as I call it.

Lage: What do you mean by that?

Torheim: Taking a mass of data and getting mathematical solutions, whether they be for payroll or for engineering design, weather information, cost accounting and that sort of thing. Now they're being used more for management information systems linked to land-use planning and the budgeting process.

Lage: How does that work?

Torheim: Well, it's terribly complex and I probably don't understand all of it myself, but you can take the data that you generate (inventory data) and you can ask the "what if" questions and assemble data in various ways for different management objectives. Computers nowadays even print out in real words instead of numbers.

Lage: So it prints out possible alternatives?

Torheim: It prints out possible alternatives, so you can select alternatives or mix and match them and it does it very rapidly. And it does more than that. Word processing--regions now are communicating by

Torheim: computer. Mary was telling me here in Region 6, and Region 1 was headed this way, that when they write a circular memorandum to go to national forests, they just put it on their computer in Portland. Then periodically during the day, forests will simply interrogate the computer with their terminals and see what the letters of the day were in the mail.

Lage: So it's a communication system as well.

Torheim: Yes, that's good. But there's a tendency, if you're not careful to let the technicians use it as a toy that's darn expensive, particularly when lower parts of the organization have the most knowledge, and they're pushing the top to fund some of these things which they sincerely believe will work well. This was the dilemma that we were in in the Forest Service, but I think it's being managed much better now. It took some organization change, too, to do that, by the way, and get the managers more involved instead of just putting it off in a subunit, technical subunits, of the organization.

A Centralizing Influence

Lage: Does the use of the computer affect the organization? I think you're saying some of this too, but does it make it more centralized or does it allow it to be less centralized, or can you pretty well control that effect?

Torheim: You can do it both ways.

Lage: Do you feel like you can control the computer?

Torheim: Yes, you can control its use and what it's used for better. I guess in many ways it has a tendency to centralize. In fact, looking ahead a little bit, I see the Forest Service probably moving back to more centralization in certain activities, simply because of the complexity and cost. I don't mean the organization generally to become that way. We talked earlier about all of the experimentation that took place in the past in reorganization and in work planning systems and land planning. That was not very efficient. So the changes for the future and even in the recent past have become a little more centralized and a little more organized than simply saying let's see what the next push from the field is. That's evident in land management planning emanating from the National Forest Management Act. I think that's been done very well.

Lage: Do you think that's a good thing? Or will that lead to less experimentation and change?

Torheim: Well, I don't know but I think it will still permit experimentation or change but more organized and directed. I think so, but we'll have to wait and see. That's future oral history! [chuckles]

Innovative Response to New Technology

Lage: Are there any other communication systems that you might comment on--for instance, use of satellites--or are there other new technical advancements that have changed the way the Forest Service operates?

Torheim: Of course, all of the communication systems and transportation systems that society in general has. The Forest Service has spanned transportation all the way from horseback to the jet airplane. Satellites are used not directly by the Forest Service to my knowledge anyway, but the resource inventory and mapping is done now by satellite using NASA equipment. The Forest Service has had an ongoing program with NASA in Houston to adapt NASA technology to the Forest Service, for instance. That's mostly in the mapping and inventory area.

Lage: So you use NASA experts or do you have Forest Service--

Torheim: We have Forest Service people on board as liaison, and they take new technology and adapt it. They're mostly engineering people. It's an ongoing program. It's been several years. There are a lot of technical changes in fire [fighting]--the use of aircraft, infrared imagery, of course fire retardants out of airplanes.

Lage: Would you describe the Forest Service as an innovative organization? Does it pick up on these new technical advancements?

Torheim: Yes, very much, very much--within the confines of budget, of course. We have development arms in the Forest Service, not only in ongoing research, but we also have development centers for equipment in California at San Dimas and at Missoula. We're very active in developing equipment that private industry then picks up on if there's a market for it and manufactures.

Lage: The Forest Service itself has developed the equipment?

Torheim: Yes, it's those kinds of things for which there isn't enough market because it's so specialized that industry would not make capital investments. So the Forest Service has these small equipment development centers and is funded by the Congress. It's small scale--trail diggers, for example, special tools for fire fighting, safety equipment for fire. Nobody else does this except the Forest Service. But that's not a large part of our business.

Lage: You mentioned that you didn't have too much to contribute on the subject of mathematical models.

Torheim: Not really, except as it's used in land management planning and budgeting and the computer's end product. I was not, of course, the developer of any of those things. But they were useful tools, and so I fostered their development. That's the manager's job anyway. You have to see what the end product is and if it's useful. Then you make it possible for the innovators to get their job done. If roadblocks are in the way, you knock them down. Then if after the periodic checks it fails, you go back and try it over again, but [managers don't get involved] in the technology itself.

VI PERSONNEL MANAGEMENT

Civil Rights and Equal Opportunity

Lage: We're going to turn now to the question of personnel management and particularly you have mentioned you wanted to talk about civil rights and equal opportunity.

Torheim: The Forest Service has had great trouble trying to get a better representation of the population in its work force mix. A lot of it is historical. The Forest Service, because of the nature of its work and the types of people who were attracted to it from the very beginning, turned out to be mostly white Anglo-Saxon Protestant males. The business was woods work and forestry. So for many years it was really a single-profession, male outfit. There were many women in the organization, but mostly in support roles, in administration roles, clerical roles. I expect very important roles, but they were not well represented throughout the work force at all.

Also, in most of the Forest Service, there were very few black people, Chicanos, or other minorities--very few Indians surprisingly, even though the national forest are adjacent to all

Torheim: kinds of Indian reservations. No particular attempt was made to attract people--women and minorities--to the work force because the nature of the business was that people sought jobs. There was no social awareness or even concept of reaching out, which there is today. That was true in society as a whole, and the Forest Service was no different.

Now then, when the Civil Rights law was passed, and it became a matter of public policy to begin to expand the work force to represent the population better, the Forest Service, with its gung ho attitude of getting things done, plunged right in. But even today, the Forest Service has done poorly in this regard, and you just can't believe how much effort has been put into doing this. I've been troubled by this for a long time because we did put so much effort [in it], and anything else that we did in the Forest Service with this kind of effort usually produced results. This has not happened in getting better representation in the work force.

Efforts to Recruit Minorities

Lage: What type of effort are we talking about? What kinds of things were done?

Torheim: We conducted nationwide, probably the first among government agencies, a very highly sophisticated sensitivity program, first of all, on the culture of minorities, what they're all about from a manager's point of view; how to attract minorities into the work

Torheim: force. You see, many Forest Service people, as we were discussing with my wife Marjean last night, lived out in the woods and really had no contact with people other than people who looked just like themselves and had the same value systems. Very few inner city people wanted to work in the woods. They didn't like it. It wasn't part of their culture, and they were not even much involved in recreation activities in the forest.

So we thought it necessary, first of all, to have an internal training program.

Lage: Was this when you were in Washington?

Torheim: Yes, and then later on when I was back out in the region again. We started this in the sixties, and it accelerated in the seventies. The Forest Service was characteristically low man on the totem pole in the Department of Agriculture in achieving its minority mix goals, and the Department of Agriculture was low in government. So we were the lowest of the low.

It was easy to rationalize this, but we didn't do that because we had a job to do. We approached it just like achieving any other goal, and managers really worked their tails off to accomplish this but with disappointing results. So it became terribly frustrating.

Then we employed minorities in staff positions to help us do this. We set up civil rights groups in regional offices and in the Washington office. We began to reach out. We had sophisticated recruiting programs to reach out and get people.

Torheim: We had great trouble finding qualified people who wanted to work for us. There was great competition to get female and black, particularly, professionals. We couldn't compete with the pay that industry was giving. We'd get some aboard, and they'd do well, and they'd go off to another agency who would offer them better jobs.

Lage: Were the people you were able to recruit did they tend not to be in forestry? Did they tend to be in business?

Torheim: Yes, right, you couldn't find forestry students who were black or female for a long time. So then we began to work with the universities and encouraged them to recruit minority students themselves and we would provide work for them.

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Torheim: As I was saying, this was frustrating and continues to be to quite an extent in achieving minority goals. The effort the Forest Service made continues. I think we were quite innovative in putting together structured civil rights training programs and using some of the techniques we used out of behavioral science to see if we couldn't get our attitudes turned around and get our people acquainted with what it takes to have minorities on the payroll and what it takes to attract them to our kind of business.

We even, on a service-wide basis, used the southern region to recruit black people because, after all, Montana had no chance of getting black people. They just don't live there. So we were attempting to get people out of the South and Chicanos out of the

Torheim: the Southwest. There was some success at that. But again, with such cultural change, people didn't stay long. They found another job later on back where they used to live, and they would take it.

Lage: I would think you would have more success with Indians or Chicanos that might have more ties to the land.

Torheim: That very thing was done. We faced reality then and decided that really Region 1 should concentrate on the Indian population because, after all, there are lots of employable Indian young people that live close to national forests. It's right within their own culture, close to their homes, and they don't have to go through cultural shock necessarily. So this is what Region 1 is doing now. It isn't realistic to encourage people unless they want to and some do now. There are some who do and who do very well. So this is the thrust in Region 1, and it's beginning to work quite well, with lots of help from the forest supervisors.

Lage: Have there been any particular problems connected with such things as different time concepts among some of the people employed?

Torheim: Yes, that's true. You have to understand the culture of the society from which these people are entering the work force. In Region 1 we contacted the community colleges, and we made a contract with the tribes. The tribal councils are very interested in getting their young people into the community colleges. Then we would provide the work for them, even while they were in school, and this seems to be working well. They're close to home. The

Torheim: community colleges were even willing to put on training programs right on their reservation. This is the way it's finally working now.

Lage: Would they come in in technician roles?

Torheim: Yes, they'd be technicians. It wasn't realistic, right at the outset, to encourage people to go to professional schools because you really have to make it visible that there is a career, and you have to get enough Indian people into your work force to make that real, not just theoretical. It was easier to do something in the short term and, besides, there was an employment problem for these young men and women. So it met all those needs. I hope this continues to work well.

In the other regions, Region 6, of course, has a mixed population. I don't know how they're doing now but we were having troubles retaining people once we got them because they would go onto other work, which is okay. The goal should be to give them opportunity and not necessarily to stay in your own outfit. But still it's not going along like it should and I don't know really why. I suppose it's going to take a while.

Employment of Women, a Success Story

Torheim: This is not true with women. The employment of women in the Forest Service is an utter success story compared with where we were. I don't say that the goal achievement is as high as it should be, but compared with where we were and the progress that's

Torheim: being made, I think it's working well. We have women graduates now in forestry that come into the work force just the same as men and in wildlife biology, landscape architecture, archeology, you name it. The big gap is the lack of women in managerial roles. As I was mentioning to you earlier, the first woman ranger has been appointed in Region 2 (Colorado). I think this is just one of many to come.

We have moved some professional women from other places from private industry and universities directly into the work force, but at rather high grade levels. The Forest Service has been doing this for years.

Lage: In what types of work?

Torheim: The chief archeologists in Region 6 and in Region 1 are women. They're at grade 13 or 14. The personnel officer, administrative officers for forests, are more and more women. But we don't have any women forest supervisors. That's what I'm talking about. We have one director of information in San Francisco who has been there for a couple of years, a woman. But I'm talking about women in the mainstream of policy formulation and generalized management, and those are line jobs. But I think that will come as more and more women enter the work force. It's common now to have women in all kinds of jobs at the ranger district and forest level.

Lage: Is this well-accepted from this predominantly male organization?

Torheim: I think this is an individual thing. My perception is that it's so common now, it's accepted as an organizational norm. I think some people still have personal hang-ups about it.

Lage: Did you have the kind of training for that as you did for minority employees?

Torheim: Yes, we did. Yes, we had a lot of problems. When we first began to bring women into the work force, in traditional male roles, we had a lot of opposition by some forest supervisors and rangers and particularly the wives of Forest Service professionals. There were really uprisings.

Lage: That's interesting. Men do work with women in other settings.

Torheim: The forest setting, though, is a little different. It's a pair working together, small groups, much on their own; women living in bunk houses for which we were not prepared. Now we build bunk houses for men and women. There are all of these hang-ups that people get into, not so much on what happened but what they anticipate might happen---that kind of thinking. Wives who really didn't want their husbands to go out in the morning in a pickup with a female partner on a timber cruising job, something like that. They would say, "I didn't want that to happen."

Then the response to that would be that forest supervisors and rangers would not place women in roles like that. So therefore, they couldn't get women to work in the forests because those were the jobs. But this was overcome through experience. So now I perceive that it's pretty well accepted as far as women in the work force is concerned. Getting women into managerial roles is the next step, but we're doing that. The way to accomplish things is through goal establishment. Characteristically

Torheim: in Region 1, we exceeded our goals annually in the hiring and upward mobility of women. It was no trouble at all.

Lage: You found women eager to get into it?

Torheim: Yes, women were eager. They were competent. They were willing to make the transition. They had an understanding that this was a difficult thing for them to be accepted in the work force and they performed as we expected them to--outstandingly. Put that all together and it's not too hard finally to get acceptance. But, gee, it took a long time. So I see that continuing, and now if you look at the colleges of forestry and in other natural resource curricula at universities, you'll see in some of them as much as 50 percent women.

So I think we're on the way. Now, if we could only integrate blacks, Chicanos, and Indians, particularly, into the work force in a similar manner I think we would then achieve the social goals we are supposed to achieve. But I think that will come. It's just a little slow and the Forest Service has had great difficulty in spite of massive energy.

Lage: Now, you, I can tell, have been committed to this goal. Was the commitment as widespread? Was there a difference between age groups in the degree of commitment?

Torheim: Not once it became organization policy. We had trouble with commitment originally because the people didn't think it was possible. Since they didn't think it was possible then if they had personal biases against it, they could put that right together

Torheim: with seeing to it that it became impossible. It takes more than just, "Well, our door is open." It takes a commitment to go out and bring people to your threshold and invite them in and then nurture them while they're in. A lot of our folks wouldn't take that step. They didn't think that was right. People, if they were motivated, as they were, to get into an organization should compete equally and find their own way. We had difficulty overcoming that.

However, once it became a matter of the Forest Service's reputation and the chief's reputation, and esprit de corps of where we are a "can-do" outfit and we were a "no-do" outfit, then even the people who were having trouble personally set that aside and began to achieve this objective for organizational purposes.

The Job Corps

Lage: Did the Job Corps provide you any help in this?

Torheim: The Job Corps was a great help in this, yes. At least it got our people acquainted with women and minorities in a work environment. Still the work environment wasn't quite the same.

Lage: What about developing interest, like so many people came in through the CCC?

Torheim: The Job Corps didn't do that. We thought it was going to. We thought, gee, you'll have so many black people and Chicanos as Job Corps enrollees and, boy, when they graduate they'll come

Torheim: right into the Forest Service. They were so far behind, even when they graduated, they couldn't even qualify for the smallest job. There were some, and a lot didn't want to I must say too. A lot of them weren't trained for that. The education in Job Corps was not in natural resources. It was to be a cook, to be a carpenter, to be a painter, and we didn't employ those kind of people.

Lage: So the Job Corps wasn't oriented to natural resources?

Torheim: No, it provided a natural resource environment to learn other things.

Lage: Did it take them out for the most part into the forests?

Torheim: Oh, yes, that's where they lived, yes. It was a good environment, an excellent environment.

Lage: That's interesting that they picked that environment, and yet they weren't training them for that kind of a life. There is some mystique about that environment.

Torheim: Because the original objectives of the Job Corps were not that clear, it was thought that we would provide them woods work, and that was the reason for putting them out there, and making them employable through learning the world of work. It became evident though that that wasn't a skill that was marketable, and we had to provide them with the kinds of job skills that were marketable. That became the trades--heavy equipment operators, for instance. Then we began to, with contracts with the unions, put together a really meaningful trade apprentice program. That's

Torheim: what it is. It serves them better. They can go back into their own environment and get a job. In fact, with the apprentice program you were guaranteed a job. So it changed. Then the character of the people who came into the Job Corps changed too. So it was different.

Anyway, I'd say that women's role in the Forest Service is moving along quite well, albeit slowly. At least it's easy to see where it's headed. It's not so easy for me to see where we're headed, at least in the western regions, with minorities yet, but it will come.

Lateral Entry and the Promotion of Specialists

Lage: You mentioned lateral entry into the profession and that might be something we should follow up on. Hasn't there been sort of a traditional objection to it?

Torheim: Yes, that's changed a lot in recent years, but yes, when it was really foresters who were the largest professional body in the Forest Service, you started from scratch and worked your way up; everybody did. When we began to introduce other disciplines in the Forest Service, though, we had to have instant expertise. So we had to hire people at all levels. For example, we had to have soil scientists who were truly professionals. We went to universities and hired some to take on the director jobs and upper staff jobs and the same with wildlife biologists and fishery biologists. We got them from the state game and fish

Torheim: departments. We picked up people from the Park Service, the visitor information services naturalists, that sort of thing.

It wasn't until we began to have a need for these other disciplines that we moved people laterally into the Forest Service.

Lage: What about laterally at higher levels? Say, into personnel management in Washington.

Torheim: Oh, we've done that, yes. Oh, yes, and that continues too; not as much, but yes, there's some of that too, much more than it used to be. That used to be rare. Now, just because of the nature of the experience necessary, it isn't done maybe as much as some agencies do, but still it's not a bit uncommon. It's also not as uncommon if somebody leaves the Forest Service and then comes back. It used to be that that was it. If a person would resign from the Forest Service and go to work for private industry or the state or somewhere, they really weren't welcome back. But that's not true anymore.

Lage: That was disloyalty?

Torheim: No, no, in fact, in many instances it's an excellent broadening for them and they're oftentimes welcomed back if their performance was good when they left and their performance was good where they worked during that time.

Lage: At the higher levels, is it still the foresters who get the higher jobs?

Torheim: Our chief of the forest service now is an engineer. That's the first time. Max Peterson is a civil engineer.

Lage: Was there any objection to that on traditional grounds?

Torheim: No, not that I know of. The Society of American Foresters didn't rise up in arms or anything like that. We've had a regional forester, as I remember, who was an engineer, at one time. Engineers who have been in the outfit long enough have had the same experiences as foresters.

Lage: They've come up the traditional way?

Torheim: Yes, as Max has. I would say though that, yes, most of them are foresters and probably will continue to be because the profession of forestry leads in that direction. But as these other disciplines begin to work their way up from the specialist role into the managerial role--I'm speaking of the wildlife biologists, the fishery biologists, soil scientists, and landscape architects and others--I think we'll see them assume the generalist roles more and more. It's just natural.

Lage: More into the managerial end of it?

Torheim: Yes, and it's a personal choice. Lots of professionals in a specialty really don't want to be in a generalist role. That brings up a problem that I and others have tried to solve for years and it hasn't been solved yet. Because of the civil service classification system, you can achieve financial compensation in increments of increase only by movement upward in the hierarchy, not by becoming more proficient in your profession. There are limits on that. I'll give some examples.

Torheim: A wildlife biologist can work up in his or her specialty to about grade 12 or 13, maybe 14 at the very most. But if they've gone that route, then that's the end of it for them. If they want to achieve higher level grades though, they had to make a decision sometime back when they were a GS-11 or 12 that they would move over to a more generalist position, which they could, like a forest supervisor and ranger or whatever. Then they could achieve higher grades up in the managerial roles.

That forces a specialist to make a decision at that earlier time if they want to be the very best wildlife biologist in the Forest Service or if they want to get compensated a little better in the future and be a generalist. Now, private industry handles this in a very effective way which I wish the government would emulate, and that is, why shouldn't an expert wildlife biologist, who wants to remain in that specialty be paid according to his or her expertise rather than where that person sits in the hierarchy? It's conceivable, for example, that a director of wildlife management in a regional office might have some expert employees getting more pay than the director. Research does this. Research scientists are compensated not on the basis of where they sit in the research hierarchy, but on their expertise.

Lage: What about that director himself, the director of wildlife management? Isn't he an expert in that field?

Torheim: Not so much. When he moves there he's not so much anymore. He's getting to be program manager. Anyway, the principle is that if we could somehow compensate people for their expertise we would

Torheim: not force them off into generalist roles just to achieve better compensation. We could provide distinct career ladders for those people who want to choose between either being an expert specialist or being a generalist. It shouldn't have to be movement upward in the hierarchy to achieve pay compensation commensurate with their expertise. You should be able to do it with your specialty. This will happen someday. It happened in research many years ago, but we just haven't made the grade. But the Forest Service is still working at it.

Lage: How does the research division feed back into your specialists?

Torheim: There's a technology transfer mechanism. Research in the Forest Service does research not just for the Forest Service in forestry but for the nation as a whole--private industry and the states and other federal agencies, as well, and internationally. So the Forest Service is one client. But the Forest Service is responsible for the forestry research in the United States. Then there are mechanisms to link the research knowledge to the practitioner and it's done through the staff people--sometimes well and sometimes less than well. That's a whole subject in itself--technology transfer and some of the problems that are attendant thereto. But that's the way it's done. I think that's about the story on the intent of integrating more of society's representatives in the work force of the Forest Service.

Employee Dissatisfaction in Region 6##

Lage: I read a UCLA study report (which pointed out that Region 6 had the highest level of employee dissatisfaction--ranger dissatisfaction--with their job. You said you had some explanation for that:

Torheim: Region 6 got trapped a little bit, and it had to work its way out of the trap. It came about this way. With the rapid increase in timber management activities (timber sale programs) in Region 6 with the national need for housing, the region began to be funded by the Congress with rather substantial increases to put more timber on the market. Therefore, the region began to employ foresters, as many as 80 to 120 a year and some years more.

So during a period of about 1957 or '59 somewhere up until about 1965 or '67 (a period there of seven or eight years), large numbers of foresters were coming into Region 6. They were being recruited to do this job. Then the timber sale program was brought up to the sustained yield levels and it flattened out. The region then had a large number of forestry graduates. The way you work your way up in the Forest Service is to work your way up in the hierarchy. That's the way the classification system is. So traditionally, you'd have to work your way up from an entrance level of GS-5 or GS-7 and GS-9 working in a specialty and then

*William McWhinney, The National Forest: Its Organization and Its Professionals, 1970, p. 137.

Torheim: you'd have to go to GS-11 as a district ranger or maybe a forest staff.

But there were so many people at this entrance level (GS-5, 7, and 9) that there weren't enough jobs for them to move up in any reasonable span of time to GS-11. In fact, many of them weren't even able to get out of GS-7. So there was a tremendous blockage.

This caused an awful problem. These folks couldn't really find employment in other regions either because the high level of activity was mostly in Region 5 and Region 6. Region 5 had a similar problem. It just wasn't in the same dimension.

I was in personnel management at the time that we began to really consider this as being an issue. This was 1966. So Region 6 tackled the problem and decided that we needed to do something about it. So we worked out an elaborate system with other regions and with the Washington office to find other assignments for these people. We had to do that.

The other thing that we had to do was begin to put technicians in the work force. What we discovered we had done was to hire foresters and really were putting them in technician-type jobs because they could land on their feet so to speak, particularly if you graduated from a western school! So we had foresters that were really not promotable because they were in technician jobs.

Lage: But their expectations were higher.

Torheim: Yes, right, of course they were. Then we had some foresters that we hired who truly weren't foresters. They were indeed technicians, even though they had a forestry degree. So we had to sort out those folks and redirect their careers. We were taking any forester who graduated there for such a long time. Anyway, with all of this we began to then tackle the problem. We worked with the community colleges in Oregon and Washington and helped them strengthen their technician programs, their two-year associate degree programs. We worked closely with them. We found opportunities for foresters to move on to other regions in some cases. Some were moved into technician jobs and sought careers--found careers--moving up the technician ladder.

Lage: How far can you move up the technician ladder?

Torheim: Well, not very far compared to professionals but then some people want to be specialists and be very good at a narrower job. So we found some of those who really were more comfortable doing that--not a great number, but some were. Then we almost stopped the recruiting of new foresters until we got this sorted out. But there was a period there of about five years when there was tremendous dissatisfaction by this great pool of GS-7s, essentially foresters.

Then as we began to sort this out and get people distributed better in the work force (and of course retirements and people moving on helped too), we designed a different kind of recruiting system on a much lower level and a planned experience program for

Torheim: new foresters so when they came into the work force, they knew that if their performance justified [it], that they could work their way up to a journeyman grade in five years, and if they couldn't they ought to go out. So that's kind of the way it works now. It's changed a lot because the work load is different now. It's more diversified and the levels of recruitment are much lower. There are personnel ceilings now. So that was a temporary thing that we tackled, but it was a great concern to the service as a whole even though most of the problem was in Region 6.

Role of Technicians in the Work Force

Lage: You mentioned the technicians. Has the role of the technician changed over the years?

Torheim: Yes, the junior colleges (the community colleges) have done a marvelous job of educating technicians to a very high level of competence. So the Forest Service really has many technicians, not just in forestry but in engineering and in the business-management activities as well.

Lage: These work under rangers primarily?

Torheim: Right, mostly.

Lage: How is the relationship between the professional arm and the technician?

Torheim: The technician is the doing arm; they're the experts. In timber, for example, they would cruise the timber and lay out the timber sales and do the technical work of that kind. The forester would

Torheim: prescribe the kind of silvicultural techniques to use--the latest professional technology to regenerate timber and that sort of thing. The technician would raise the trees in the nursery. In fire management the technician is really highly skilled in fire fighting, fire management, forest fuels work and that sort of thing.

The professional is in the policy area, new technology, the translation of research results into new ways of doing business. They are two jobs. Early in a person's career, a professional might well be working for a skilled technician of a much higher grade. They work together, and technicians train new foresters so to speak, and other professionals as well.

Lage: Does that create some ill feeling?

Torheim: Well, no. I suppose there might be some individuals. That was true when I started in the Forest Service too, by the way. We didn't call them technicians. The oldtimers that really ran the district trained all of the new professionals in how to do things. We would impart our knowledge of more theoretical things and that sort of thing to technicians. It's always been a very close relationship.

One of the changes that's taken place, however, between technicians of today and the past is that technicians today are much more mobile than they used to be. The technician of the past for many years was usually a local person who grew up in the same locale as the ranger station that he worked at, oftentimes

Torheim: lived just down the road or had a small ranch; very often worked only seasonally, but never had any idea of moving because their roots were firmly there where they worked. That kind of identified the technician. Now, that was great. That kind of tenure when the professionals were moving around a lot really kept the warp and the woof of the outfit together.

That's not true anymore. There's some of that, but we find now that technicians move readily from one region to another, from one forest to another, just the same as anybody else. But for those who don't wish to, there is still a fine career with tenure being very much a plus, if they keep up with the technology of the business.

Regional Differences and Washington Office Coordination##

Lage: I wanted to go back again to some other questions on some of the things we've already covered. I was telling you about the GAO study of '78 that seemed to indicate that the integrating of all the aspects of the RPA had fallen short, at least by '78. They mentioned that in Washington the headquarters groups for RPA budget and programming, and land management planning were uncoordinated, were separate.

Torheim: We felt this in the field as well. Of course, it's quite complex and the organization to carry it out wasn't fully developed. The goal was to integrate the RPA and the land management planning

Torheim: under the National Forest Management Act, to distribute the national RPA goals then to each national forest, and assist them through the regional plan, and then have those mesh with the ability of the lands in that forest to produce those goals. That's a tall order.

At the same time, the techniques for doing that were still being developed. But it was not done in a coordinated fashion at the Washington office level. So as typically happens in the Forest Service, the regions then have a tendency to go off on their own and make it work. This is happening less and less as this becomes an established way of doing business. It's now become okay for regions to do that and the chief will actually select a region or two to do the experimentation for the Forest Service. We're doing that in Region 1. I suppose that in the past Region 1 might have, just on its own, as we did in land management planning, say, "We're going to go out and make a product and see if the rest of the service will accept it."

Now it's a little better managed and regions are actually selected to do that. So we were doing that in Region 1. The inherent competition though, again, between regions makes other regions want to also reach out and see if they can't do it too. So they were doing this. So a forest was selected for each region this time to experiment. Our region developed the computer program to do this very job of integrating. So when the GAO made its remarks, they were appropriate. The will to integrate it was there,

Torheim: but it hadn't been achieved yet. So it was partially achieved. On those forests where land management plans had been essentially completed, they were being used (although crudely) to formulate budgets and then to see if we couldn't get the RPA goals at least in part distributed downward through that plan.

But with the new forest plans, now, it looks like RPA and land management planning will get together in the system that was envisioned originally. This will take a little while.

Fostering and Controlling Innovation in the Field

Lage: It sounds from what you've said that Region 1 is particularly innovative. Is that true?

Torheim: In certain areas. Each region is innovative in different things I suppose. Region 3 was the most innovative region to my knowledge when we were doing work planning. They had a very sophisticated system which was adopted by the regions later on, and they probably did better. Region 4 was a leader in the Forest Service in multiple-use planning. Each region will kind of pick up on something that they're particularly interested in and had probably some experts or people interested also--a regional forester and other managers--who thought that that was a good thing to do.

So this was one of the strengths of the Forest Service in my judgment; it just needed to be managed a little bit. Occasionally we would go out and get so innovative individually and so possessive of our own innovative ability that we would find each

Torheim: region inventing its own wheel. That's counter-productive and expensive. The service has kind of gathered all that up, and the field feels good about that. The field used to complain about this, that "we don't really all have to do our own thing." On the other hand, it's a fine line about how far do you let innovation go and make it manageable without stifling creativity which I think can be managed.

Lage: You mentioned that the Forest Service has a reputation in Washington for being very innovative and that other agencies come to them as an example.

Torheim: Yes, I experienced that a lot in personnel practices and training, employee development, organization development, especially, but not limited to that; Forest Service work planning techniques [have been] adopted by other agencies. The Forest Service has been a leader in using modern management techniques to get government business done.

Lage: Then why did they have this openness? It's been described as kind of a closed organization coming from, in the past, basically, one profession--and yet they've been open to using techniques outside their field.

Torheim: I think it's--well, I can only speculate--one thing is the very nature of managing the public lands and natural resources, it's something that's being developed as you go. There is no body of precise knowledge, like mathematics or engineering, that permits you to manage and integrate any trade-offs between natural

Torheim: resources. So the person in the field has to use basic education and ecology and the biological sciences and apply all of them and like a big grand organ--with some kind of plan, of course, and whatever research knowledge is available--to make it work. So there is a way of looking at the job to be done that isn't precisely defined. Couple that with a decentralized organization that puts personal responsibility at the lowest level of the organization for significant achievement. I think you have the ingredients then that stimulate creativity and willingness to innovate or try new things.

Coupled with that, the policy of transferring people from one unit to another and to Washington from the field and back has a tendency to disseminate this kind of thinking from the bottom of the organization to the top. Then the esprit de corps and good feedback that accompanies that, perpetuates it, I think. The living close to your job, the close amalgamation between family life and the job itself in the early part of most people's career contributes to that feeling also, and the willingness to work more than eight hours a day, the willingness for wives to pitch in and kind of live the same job life their husband does, at least for that part of your career when you're in a ranger district.

Lage: Is this still current today?

Torheim: Yes, to a lesser extent than it once was, but there is much of this still there. Let me put that altogether. That's the ingredients that make up the culture of an organization over time,

Torheim: I would guess, so a lot of it becomes kind of subliminal really. You just pick it up as you would any culture in any organization or society. So I think probably that's speculation, but in my judgment [it's] what makes the outfit tick.

Lage: From what you've said the field has been the leader in so many of the changes and the innovations, and the Washington office sort of comes along afterwards.

Torheim: Yes, that's right in some things. I don't think that's unusual either because the felt need is at the field level. Now, the Washington level has a different mission too. As every Washington office does in government, they had a difficult job of making the span from the legislative process (the political process) to the administrative process. In other words, translating the laws and regulations into how the job is to be done. So they lived in a world that was quite different from the field world which is getting jobs done on the land and dealing with the users directly. So it's hard for Washington office people to even find time to get into their heads the field needs on a day-to-day basis. Now, this is, of course, worked at very strenuously through visits to the field, the management review system, and the simple process of moving people back and forth keeps a sense of reality at that level. So that's not unusual. In fact, I think it's healthy for innovation to really come from the field level.

Torheim: The key though is not letting it go wild, but accepting that and managing it. I see the Forest Service doing that more now by actually designating regions, even at their own suggestion, to experiment, and then "let's monitor it and we'll help you with it and other regions can look in your window while you're doing it." That's becoming the accepted way of doing business now and I'm glad to see that.

Lage: Is there anything else you think we need to add to this picture of management technology?

Torheim: I think we've covered about all I know and probably a lot of stuff I don't know! [laughter]

Lage: That's good! That's what oral history is all about. Okay, let's sign off then.

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